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OUT LIKE A LIGHT, By Mark Phillips

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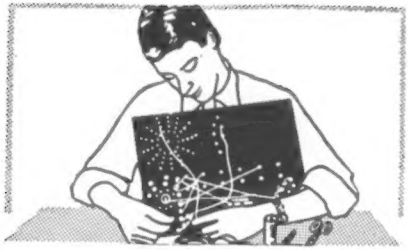

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EDITORIAL

SPACE FOR INDUSTRY

IT HAS been more or less assumed that when Man gets going well enough in spaceflight technology, the planets will be opened for development—that the future pioneers, future investment opportunities, will be in the development of Mars, Venus, the Moon, and, later, planets of other stars.

Maybe, eventually, those developments will come. But . . . it looks to me, now, as though we've neglected a major bet.

I think the first major development of industry based on space technology will not be on another planet—but in space itself. I believe that the first major use of space technology will be the development of a huge heavy-industry complex floating permanently in space, somewhere between Mars and the asteroid belt.

In the first place, we're never going to get any engineering use of space until we get something enormously better than rockets. (And every indication now is that we already have something that means rockets never will be used for any major space work. Tests so far made confirm that the gadget described in the December editorial does in fact break Newton's laws of motion; it provides thrust without counterthrust.)

We can, therefore, drop rockets from consideration; they're inherently hopeless as an industrial tool. They're enormously less efficient as transportation than is a helicopter—and nobody expects to use helicopters as the backbone of a major industrial transportation system.

So *any* engineering development of space implies a non-rocket space-drive. Something that can lift and haul tons with the practical economic efficiency of a heavy truck, at least. Even nuclear rockets couldn't do that; the reaction-mass problem requires

that even a nuclear rocket start with a gargantuan load of mass solely intended to be discarded *en route*.

So: assume some form of true space-drive. A modified sky-hook or an antigravity gadget—anything. It's a space-truck—not a delicate and hyper-expensive rocket. It can carry tons, and work for years.

Now; do we develop Mars and/or Venus?

Why should we?

The thing human beings use and need most are metals, energy, and food. It's a dead-certain bet that no Terrestrial food plant will grow economically on either Mars or Venus . . . except in closed-environment systems. Metals on those planets might be available in quantities; let's assume that Mars is red because it's a solid chunk of native iron that's rusted on the surface to a depth of six inches.

Who wants it? Why haul iron out of Mars' gravity field . . . when it's floating free in the asteroid belts? If we're going to have to grow our food in a closed-environment system any time we get off Earth . . . why not do it where null-gravity makes building the closed environment cheap, quick, and easy?

And while Terran life forms may not do well on those planets . . . the local life forms might do very well indeed living on us. Why bother fighting them off? In a space-city, there would be only those things which we selected for inclusion.

And energy?

(*Continued on page* 176)

Astounding
SCIENCE FICTION Needs Stories Now!

Yes, *Astounding* SCIENCE FICTION, like other magazines across the nation, needs stories and articles.

Who's going to write them? And be paid from $150 to $3,400! Have you ever stopped to figure out how many stories and articles are needed to fill a magazine the size of *Astounding* SCIENCE FICTION? Multiply that by the number of magazines published, and add in the number of newspapers; then figure the scripts required for TV, radio and motion pictures each week. Quite a total, isn't it? Someone has to write it all. And get paid for it too!

So, why don't you try to make money writing? Perhaps you are one of those people who have a flair for writing.

Your big problem may be that your work lacks the "secret" ingredients used by professional writers. What is the "secret"? Frankly, there's nothing secret about those ingredients. Most any professional *fiction* writer who is also a *good teacher* and is *willing* to figure them all out and *explain* them *to you* could do so—*maybe!*

Now, where can you learn these so-called secrets? Well, there are many schools. I happen to be President of one of the oldest, and while I am naturally prejudiced, I honestly believe we have the best course and the most helpful instructors in the business. Our students and graduates say the same thing. True, not everyone succeeds, but many sell when only halfway through the course, and many more become full-time professional selling writers.

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OUT LIKE A LIGHT

By MARK PHILLIPS

Kenneth Malone—sometimes known as Sir Kenneth of The Queen's Own FBI—had had problems with telepathic spies, and more than somewhat nutty telepathic counterspies. But the case of the Vanishing Delinquents was at least as bad....

Illustrated by Freas

HE SIDEWALK was as soft as a good bed. Malone lay curled on it thinking about nothing at all. He was drifting off into a wonderful dream and he didn't want to interrupt it. There was this girl, a beautiful girl, more wonderful than anything he had ever imagined, with big blue eyes and long blond hair and a figure that made the average pin-up girl look like a man. And she had her soft white hand on his arm, and she was looking up at him with trust and devotion and even adoration in her eyes, and her voice was the softest possible whisper of innocence and promise.

"I'd love to go up to your apartment with you, Mr. Malone," she said.

Malone smiled back at her, gently but with complete confidence. "Call me Ken," he said, noticing that he was seven feet tall and superbly muscled. He put his free hand on the girl's warm, soft shoulder and she wriggled with delight.

"All right—Ken," she said. "You know, I've never met anyone like you before. I mean, you're so wonderful and everything."

Malone chuckled modestly, realizing, in passing, how full and rich his voice had become. He felt a weight pressing over his heart, and knew that it was his wallet, stuffed to bursting with thousand-dollar bills.

But was this a time to think of money?

No, Malone told himself. This was the time for adventure, for romance, for love. He looked down at the girl and put his arm around her waist. She snuggled closer.

He led her easily down the long wide street to his car at the end of the block. It stood in godlike solitude, a beautiful red Cadillac capable of going a hundred and ten miles an hour in any gear, equipped with fully automatic steering and braking, and with stereophonic radio, a hi-fi and a 3-D set installed in both front and back seats. It was a 1972 job, but he meant to trade it in on something even better when the 1973 models came out. In the meantime, he decided, it would do.

He handed the girl in, went round to the other side and slid in under the wheel. There was soft music playing, somewhere, and a magnificent sunset appeared ahead of them as Malone pushed a button on the dashboard and the red Cadillac started off down the wide, empty, wonderfully paved street into the sunset while he—

The red Cadillac?

The sidewalk became a little harder, and Malone suddenly realized that he was lying on it. Something terrible had happened; he knew that right away. He opened his eyes to look for the girl, but the sunset had become much brighter; his head began to pound with the slow regularity of a dead-march and he closed his eyes again in a hurry.

The sidewalk swayed a little but he managed to keep his balance on it somehow, and after a couple of min-

utes it was quiet again. His head hurt. Maybe that was the terrible thing that had happened, but Malone wasn't quite sure. As a matter of fact, he wasn't very sure about anything, and he started to ask himself questions to make certain he was all there.

He didn't feel all there. He felt as if several of his parts had been replaced with second- or even third-hand experimental models, and something had happened to the experiment. It was even hard to think of any questions, but after a while he managed to come up with a few.

What is your name?

Kenneth Malone.

Where do you live?

Washington, D. C.

What is your work?

I work for the FBI.

Then what are you doing on a sidewalk in New York in broad daylight?

He tried to find an answer to that, but there didn't seem to be any, no matter where he looked. The only thing he could think of was the red Cadillac.

And if the red Cadillac had anything to do with anything, Malone didn't know about it.

Very slowly and carefully, he opened his eyes again, one at a time. He discovered that the light was not coming from the gorgeous Hollywood sunset he had dreamed up. As a matter of fact, sunset was several hours in the past, and it never looked very pretty in New York anyhow. It was the middle of the night, and Malone was lying under a convenient street lamp.

He closed his eyes again and waited patiently for his head to go away.

A few minutes passed. It was obvious that his head had settled down for a long stay, and no matter how bad it felt, Malone told himself, it *was* his head, after all. He felt a certain responsibility for it. And he couldn't just leave it lying around somewhere with its eyes closed.

He opened the head's eyes once more, and this time he kept them open. For a long time he stared at the post of the street lamp, considering it, and he finally decided that it looked sturdy enough to support a hundred and sixty-five pounds of FBI man, even with the head added in. He grabbed for the post with both hands and started to pull himself upright, noticing vaguely that his legs had somehow managed to get underneath him.

As soon as he was standing, he wished he'd stayed on the nice horizontal sidewalk. His head was spinning dizzily and his mind was being sucked down into the whirlpool. He held on to the post grimly and tried to stay conscious.

A long time, possibly two or three seconds, passed. Malone hadn't moved at all when the two cops came along.

One of them was a big man with a brassy voice and a face that looked as if it had been overbaked in a waffle-iron. He came up behind

Malone and tapped him on the shoulder, but Malone barely felt the touch. Then the cop bellowed into Malone's ear.

"What's the matter, buddy?"

Malone appreciated the man's sympathy. It was good to know that you had friends. But he wished, remotely, that the cop and his friend, a shorter and thinner version of the beat patrolman, would go away and leave him in peace. Maybe he could lie down on the sidewalk again and get a couple of hundred years' rest.

Who could tell?

"Mallri," he said.

"You're all right?" the big cop said. "That's fine. That's great. So why don't you go home and sleep it off?"

"Sleep?" Malone said. "Home?"

"Wherever you live, buddy," the big cop said. "Come on. Can't stand around on the sidewalk all night."

Malone shook his head, and decided at once never to do it again. He had some kind of rare disease, he realized. His brain was loose, and the inside of his skull was covered with sandpaper. Every time his head moved, the brain jounced against some of the sandpaper.

But the policeman thought he was drunk. That wasn't right. He couldn't let the police get the wrong impression of FBI agents. Now the man would go around telling people that the FBI was always drunk and disorderly.

"Not drunk," he said clearly.

"Sure," the big cop said. "You're fine. Maybe just one too many, huh?"

"No," Malone said. The effort exhausted him and he had to catch his breath before he could say anything else. But the cops waited patiently. At last he said: "Somebody slugged me."

"Slugged?" the big cop said.

"Right." Malone remembered just in time not to nod his head.

"How about a description, buddy?" the big cop said.

"Didn't see him," Malone said. He let go of the post with one hand, keeping a precarious grip with the other. He stared at his watch. The hands danced back and forth, but he focused on them after a while. It was 1:05. "Happened just—a few minutes ago," he said. "Maybe you can catch him."

The big cop said: "Nobody around here. The place is deserted—except for you, buddy." He paused and then added: "Let's see some identification, huh? Or did he take your wallet?"

Malone thought about getting the wallet, and decided against it. The motions required would be a little tricky, and he wasn't sure he could manage them without letting go of the post entirely. At last he decided to let the cop get his wallet. "Inside coat pocket," he said.

The other policeman blinked and looked up. His face was a studied blank. "Hey, buddy," he said. "You know you got blood on your head?"

The big cop said: "Sam's right. You're bleeding, mister."

"Good," Malone said.

The big cop said: "Huh?"

"I thought maybe my skull was going to explode from high blood pressure," Malone said. It was beginning to be a little easier to talk. "But as long as there's a slow leak, I guess I'm out of danger."

"Get his wallet," the smaller cop —Sam—said. "I'll watch him."

A hand went into Malone's jacket pocket. It tickled a little bit, but Malone didn't think of objecting. Naturally enough, the hand and Malone's wallet did not make an instant connection. When the hand touched the bulky object strapped near Malone's armpit it stopped, frozen, and then cautiously snaked the object out.

"What's that, Bill?" Sam said.

Bill looked up with the object in his hand. He seemed a little dazed. "It's a gun," he said.

"The guy's heeled!" Sam said. "Watch him! Don't let him get away!"

Malone considered getting away, and decided that he couldn't move. "It's O.K.," he said.

"O.K., hell," Sam said. "It's a .44 Magnum. What are you doing with a gun, Mac?" He was no longer polite and friendly. "Why you carrying a gun?" he said.

"I'm not carrying it," Malone said tiredly. "Bill is. Your pal."

Bill backed away from Malone, putting the Magnum in his pocket and keeping the FBI agent covered with his own Police Positive. At the same time, he fished out the personal radio every patrolman carried in his uniform, and began calling for a prowl car in a low, somewhat nervous voice.

Sam said: "A gun. He could of shot everybody."

"Get his wallet," Bill said. "He can't hurt you now. I disarmed him."

Malone began to feel slightly dangerous. Maybe he *was* a famous gangster. He wasn't sure. Maybe all this about being an FBI agent was just a figment of his imagination. Blows on the head did funny things. "I'll drill everybody full of holes," he said in a harsh, underworld sort of voice, but it didn't sound very convincing. Sam approached him gently and fished out his wallet with great care, as if Malone were a ticking bomb ready to go off any second.

There was a little silence. Then Sam said: "Give him his gun back, Bill," in a hushed and respectful tone.

"Give him back his gun?" the big cop said. "You gone nuts, Sam?"

Sam shook his head slowly. "Nope," he said. "But we made a terrible mistake. Know who this guy is?"

"He's heeled," Bill said. "That's all I want to know." He put the radio away and gave all his attention to Malone.

"He's FBI," Sam said. "The wallet says so. Badge and everything. And not only that, Bill. He's Kenneth J. Malone."

Well, Malone thought with relief, that settled that. He wasn't a gangster after all. He was just the FBI agent he had always known and

loved. Maybe now the cops would do something about his head and take him away for burial.

"Malone?" Bill said. "You mean the guy who's here about all those red Cadillacs?"

"Sure," Sam said. "So give him his gun back." He looked at Malone. "Listen, Mr. Malone," he said. "We're sorry. We're sorry as hell."

"That's all right," Malone said absently. He moved his head slowly and looked around. His suspicions were confirmed. There wasn't a red Cadillac anywhere in sight, and from the looks of the street there never had been. "It's gone," he said, but the cops weren't listening.

"We better get you to a hospital," Bill said. "As soon as the prowl car gets here we'll take you right on down to St. Vincent's. Can you tell us what happened? Or is it—classified?"

Malone wondered what could be classified about a blow on the head, and decided not to think about it. "I can tell you," he said, "if you'll answer one question for me."

"Sure, Mr. Malone," Bill said. "We'll be glad to help."

"Anything at all," Sam said.

Malone gave them what he hoped was a gracious and condescending smile. "All right, then," he said. "Where the hell am I?"

"In New York," Sam said.

"I know that," Malone said tiredly. "Anywhere in particular, or just sort of all over New York?"

"Ninth Street," Bill said hurriedly. "Near the Village. Is that where you were when they slugged you?"

"I guess so," Malone said. "Sure." He nodded, and immediately remembered that he shouldn't have. He closed his eyes until the pain had softened to agony, and then opened them again. "I was getting pretty tired of sitting around waiting for something to break on this case," he said, "and I couldn't sleep, so I went out for a walk. I ended up in Greenwich Village—which is no place for a self-respecting man to end up."

"I know just what you mean," Sam said sympathetically. "Bohemians, they call themselves. Crazy people."

"Not the people," Malone said. "The streets. I got sort of lost." Chicago, he reflected, was a long way from the easiest city in the world to get around in. And he supposed you could even get confused in Washington if you tried hard enough. But he knew those cities. He could find his way around in them. Greenwich Village was different.

It was harder to navigate in than the trackless forests of the Amazon. The Village had tracks, all right—thousands of tracks. Only none of them led anywhere in particular.

"Anyhow," Malone said, "I saw this red Cadillac."

The cops looked around hurriedly and then looked back at Malone. Bill started to say: "But there isn't any—"

"I know," Malone said. "It's gone now. That's the trouble."

"You mean somebody got in and drove it away?" Sam said.

"For all I know," Malone said, "it sprouted wings and flew away." He paused. "When I saw it I decided to go over and have a look. Just in case."

"Sure," Bill said. "Makes sense." He stared at his partner as if defying him to prove it didn't make sense. Malone didn't really care.

"There wasn't anybody else on the street," he said, "so I walked over and tried the door. That's all. I didn't even open the car or anything. And I'll swear there was nobody behind me."

"Well," Sam said, "the street was empty when we got here."

"But a guy could have driven off in that red Cadillac before we got here," Bill said.

"Sure," Malone said. "But where did he come from? I figured maybe somebody dropped something by mistake—a safe or something. Because there wasn't anybody behind me."

"There had to be," Bill said.

"Well," Malone said, "there wasn't."

There was a little silence.

"What happened then?" Sam said. "After you tried the door handle, I mean."

"Then?" Malone said. "Then, I went out like a light."

A pair of headlights rounded the nearby corner. Bill looked up. "That's the prowl car," he announced, and went over to meet it.

The driver was a solidly-built little man with the face of a Pekingese. His partner, a tall man who looked as if he'd have been much more comfortable in a ten-gallon Stetson instead of the regulation blue cap, leaned out at Bill, Sam and Malone.

"What's the trouble here?" he said in a harsh, high voice.

"No trouble," Bill said, and went over to the car. He began talking to the two cops inside in a low, urgent voice. Meanwhile, Sam got his arm around Malone and began pulling him away from the lamp post.

Malone was a little unwilling to let go, at first. But Sam was stronger than he looked. He convoyed the FBI agent carefully to the rear door of the prowl car, opened it and levered Malone gently to a seat inside, just as Bill said: "So with the cut and all, we figured he ought to go over to St. Vincent's. You people were already on the way, so we didn't bother with ambulances."

The driver snorted. "Next time you want taxi service," he said, "you just call us up. What do you think, a prowl car's an easy life?"

"Easier than doing a beat," Bill said mournfully. "And anyway," he added in a low, penetrating whisper, "the guy's FBI."

"So the FBI's got all kinds of equipment," the driver said. "The latest. Why don't he whistle up a helicopter or a jet?" Then, apparently deciding that further invective would get him nowhere, he settled back in his seat, said: "Aah, forget it," and started the car with a small but perceptible jerk.

Malone decided not to get into the argument. He was tired, and it was late. He rested his head on the

back seat and tried to relax, but all he could do was think about red Cadillacs.

He wished he had never even heard of red Cadillacs.

II.

And it had all started so simply, too. Malone remembered very clearly the first time he had had any indication that red Cadillacs were anything unusual, or special. Before that, he'd viewed them all with slightly wistful eyes: red, blue, green, gray, white or even black Cadillacs were all the same to him. They spelled luxury and wealth and display and a lot of other nice things.

Now, he wasn't at all sure what they spelled. Except that it was definitely uncomfortable, and highly baffling.

He'd walked into the offices of Andrew J. Burris, Director of the FBI, just one week ago. It was a beautiful office, pine paneled and spacious, and it boasted an enormous polished desk. And behind the desk Burris himself sat, looking both tired and somehow a little kindly.

"You sent for me, chief?" Malone said.

"That's right." Burris nodded. "Malone, you've been working too hard lately."

Now, Malone thought, it was coming. The dismissal he'd always feared. At least Burris had found out that he wasn't the bright, intelligent, fearless and alert FBI agent he was supposed to be. Burris had discovered that he was nothing more or less than lucky, and that all the "fine jobs" he was supposed to have done were only the result of luck.

Oh, well, Malone thought. Not being an FBI agent wouldn't be so bad. He could always find another job.

Only at the moment he couldn't think of one he liked.

He decided to make one last plea.

"I haven't been working so hard, chief," he said. "Not too hard, anyhow. I'm in great shape. I—"

"I've taken advantage of you, Malone, that's what I've done," Burris said, just as if Malone hadn't spoken at all. "Just because you're the best agent I've got, that's no reason for me to hand you all the tough ones."

"Just because I'm what?" Malone said, feeling slightly faint.

"I've given you the tough ones because you could handle them," Burris said. "But that's no reason to keep loading jobs on you. After that job you did on the Gorelik kidnapping, and the way you wrapped up the Transom counterfeit ring . . . well, Malone, I think you need a little relaxation."

"Relaxation?" Malone said, feeling just a little bit pleased. Of course, he didn't deserve any of the praise he was getting, he knew. He'd just happened to walk in on the Gorelik kidnappers because his telephone had been out of order. And the Transom ring hadn't been just his job. After all, if other agents hadn't managed to trace the counterfeit bills back to a common area in Cincinnati, he'd never have been able to complete his part of the assignment. But it was nice to be praised, anyhow. Malone felt a twinge of guilt, and told himself sternly to relax and enjoy himself.

"That's what I said," Burris told him. "Relaxation."

"Well," Malone said, "I certainly would like a vacation, that's for sure. I'd like to snooze for a couple of weeks—or maybe go up to Cape Cod for a while. There's a lot of nice scenery up around there. It's restful, sort of, and I could just—"

He stopped. Burris was frowning, and when Andrew J. Burris frowned

it was a good idea to look attentive, interested and alert. "Now, Malone," Burris said sadly, "I wasn't thinking about a vacation. You're not scheduled for one until August, you know—"

"Oh, I know, chief," Malone said. "But I thought—"

"Much as I'd like to," Burris said, "I just can't make an exception; you know that, Malone. I've got to go pretty much by the schedule."

"Yes, sir," Malone said, feeling just a shade disappointed.

"But I do think you deserve a rest," Burris said.

"Well, if I—"

"Here's what I'm going to do," Burris said, and paused. Malone felt a little unsure as to exactly what his chief was talking about, but by now he knew better than to ask a lot of questions. Sooner or later, Burris would probably explain himself. And if he didn't, then there was no use worrying about it. That was just the way Burris acted.

"Suppose I gave you a chance to take it easy for a while," Burris said. "You could catch up on your sleep, see some shows, have a couple of drinks during the evening, take girls out for dinner—you know. Something like that. How would you like it?"

"Well—" Malone said cautiously.

"Good," Burris said. "I knew you would."

Malone opened his mouth, thought briefly and closed it again. After all, it did sound sort of promising, and if there was a catch in it he'd find out about it soon enough.

"It's really just a routine case," Burris said in an offhand tone. "Nothing to it."

"Oh," Malone said.

"There's this red Cadillac," Burris said. "It was stolen from a party in Connecticut, out near Danbury, and it showed up in New York City. Now, the car's crossed a state line."

"That puts it in our jurisdiction," Malone said, feeling obvious.

"Right," Burris said. "Right on the nose."

"But the New York office—"

"Naturally, they're in charge of everything," Burris said. "But I'm sending you out as sort of a special observer. Just keep your eyes open and nose around and let me know what's happening."

"Keep my eyes and nose what?" Malone said.

"Open," Burris said. "And let me know about it."

Malone tried to picture himself with his eyes and nose open, and decided he didn't look very attractive that way. Well, it was only a figure of speech or something. He didn't have to think about it.

It really made a very ugly picture.

"But why a special observer?" he said after a second. Burris could read the reports from the New York office, and probably get more facts than any single agent could find out just wandering around a strange city. It sounded as if there were something, Malone told himself, just a tiny shade rotten in Denmark. It

sounded as if there were going to be something in the nice, easy assignment he was getting that would make him wish he'd gone lion-hunting in Darkest Africa instead.

And then again, maybe he was wrong. He stood at ease and waited to find out.

"Well," Burris said, "it is just a routine case. Just like I said. But there seems to be something a little bit odd about it."

"I see," Malone said with a sinking feeling.

"Here's what happened," Burris said hurriedly, as if he were afraid Malone was going to change his mind and refuse the assignment. "This red Cadillac I told you about was reported stolen from Danbury. Three days later, it turned up in New York City—parked smack across the street from a precinct police station. Of course it took them a while to wake up, but one of the officers happened to notice the routine report on stolen cars in the area, and he decided to go across the street and check the license number on the car. Then something funny happened."

"Something funny?" Malone asked. He doubted that, whatever it was, it was going to make him laugh. But he kept his face a careful, receptive blank.

"That's right," Burris said. "Now, if you're going to understand what happened, you've got to get the whole picture."

"Sure," Malone said.

"Only that isn't what I mean," Burris added suddenly.

Malone blinked. "*What* isn't what you mean?" he said.

"Understanding what happened," Burris said. "That's the trouble. You won't understand what happened. I don't understand it and neither does anybody else. So what do you think about it?"

"Think about what?" Malone said.

"About what I've been telling you," Burris snapped. "This car."

Malone took a deep breath. "Well," he said, "this officer went over to check the license plate. It seems like the right thing to do. It's just what I'd have done myself."

"Sure you would," Burris said. "Anybody would. But listen to me."

"All right, chief," Malone said.

"It was just after dawn—early in the morning." Malone wondered briefly if there were parts of the world where dawn came, say, late in the afternoon or during the evening some time, but he said nothing. "The street was deserted," Burris went on. "But it was pretty light out, and the witnesses are willing to swear that there was nobody on that street for a block in either direction. Except them, of course."

"Except who?" Malone said.

"Except the witnesses," Burris said patiently. "Four cops, police officers who were standing on the front steps of the precinct station, talking. They were waiting to go on duty, or anyhow that's what the report said. It's lucky they were there, for what-

ever reason; they're the only witnesses we've got."

Burris stopped. Malone waited a few seconds and then said, as calmly as he could: "Witnesses to what?"

"To this whole business with Sergeant Jukovsky," Burris said.

The sudden introduction of a completely new name confused Malone for an instant, but he recovered gamely. "Sergeant Jukovsky was the man who investigated the car," he said.

"That's right," Burris said. "Except that he didn't."

Malone sighed.

"Those four officers—the witnesses—they weren't paying much attention to what looked like the routine investigation of a parked car," Burris said. "But here's their testimony. They were standing around talking when this Sergeant Jukovsky came out of the station, spoke to them in passing, and went on across the street. He didn't seem very worried or alarmed about anything."

"Good," Malone said involuntarily. "I mean, go on, chief," he added.

"Ah," Burris said. "All right. Well. According to Jukovsky, he took a look at the plate and found the numbers checked the listing he had for a stolen Connecticut car. Then he walked around to take a look inside the car. It was empty. Get that, Malone. The car was empty."

"Well," Malone said, "it was parked. I suppose parked cars are usually empty. What's special about this one?"

"Wait and see," Burris said ominously. "Jukovsky swears the car was empty. He tried the doors, and they were all locked but one, the front door on the curb side, the driver's door. So he opened it, and leaned over to have a look at the odometer to check the mileage. And something clobbered him on the back of the head."

"One of the other cops," Malone said.

"One of the . . . who?" Burris said. 'No. Not the cops. Not at all."

"Then something fell on him," Malone said. "O.K. Then whatever fell on him ought to be—"

"Malone," Burris said.

"Yes, chief?"

"Jukovsky woke up on the sidewalk with the other cops all around him. There was nothing on that sidewalk but Jukovsky. Nothing could have fallen on him; it hadn't landed anywhere, if you see what I mean."

"Sure," Malone said. "But—"

"Whatever it was," Burris said, "they didn't find it. But that isn't the peculiar thing."

"No?"

"No," Burris said slowly. "Now—"

"Wait a minute," Malone said. "They looked on the sidewalk and around there. But did they think to search the car?"

"They didn't get a chance," Bur-

ris said. "Anyhow, not just then. Not until they got around to picking up the pieces of the car uptown, at 125th Street."

Malone closed his eyes. "Where was this precinct?" he said.

"Midtown," Burris said. "In the Forties."

"And the pieces of the car were eighty blocks away when they searched it?" Malone said.

Burris nodded.

"All right," Malone said pleasantly. "I give up."

"Well, that's what I'm trying to tell you," Burris said. "According to the witnesses—not Jukovsky, who didn't wake up for a couple of minutes and so didn't see what happened next—after he fell out of the car, the motor started and the car drove off uptown."

"Oh," Malone said. He thought about that for a minute and decided at last to hazard one little question. It sounded silly—but then, what didn't? "The car just drove off all by itself?" he said.

Burris seemed abashed. "Well, Malone," he said carefully, "that's where the conflicting stories of the eyewitnesses don't agree. You see, two of the cops say there was nobody in the car. Nobody at all. Of any kind. Small or large."

"And the other two?" Malone said.

"The other two swear they saw somebody at the wheel," Burris said, "but they won't say whether it was a man, a woman, a small child or an anthropoid ape—and they haven't the faintest idea where he, she or it came from."

"Great," Malone said. He felt a little tired. This trip was beginning to sound less and less like a vacation.

"Those two cops swear there was something — or somebody — driving the car," Burris said. "And that isn't all."

"It isn't?" Malone said.

Burris shook his head. "A couple of the cops jumped into a squad car and started following the red Cadillac. One of these cops saw somebody in the car when it left the curb. The other one didn't. Got that?"

"I've got it," Malone said, "but I don't exactly know what to do with it."

"Just hold on to it," Burris said, "and listen to this: the cops were about two blocks behind at the start, and they couldn't close the gap right away. The Cadillac headed west and climbed up the ramp of the West Side Highway, heading north, out toward Westchester. I'd give a lot to know where they were going, too."

"But they crashed," Malone said, remembering that the pieces were at 125th Street. "So—"

"They didn't crash right away," Burris said. "The prowl car started gaining on the Cadillac slowly. And —now, get this, Malone—both the cops swear there *was* somebody in the driver's seat now."

"Wait a minute," Malone said. "One of these cops didn't see any-

body at all in the driver's seat when the car started off."

"Right," Burris said.

"But on the West Side Highway, he did see a driver," Malone said. He thought for a minute. "It could happen. The start happened so fast he could have been confused, or something."

"There's another explanation," Burris said.

"Sure," Malone said cheerfully. "We're all crazy. The whole world is crazy."

"Not that one," Burris said. "I'll tell you when I finish with this thing about the car itself. There isn't much description of whoever or whatever was driving that car on the West Side Highway, by the way. In case you were thinking of asking."

Malone, who hadn't been thinking of asking anything, tried to look clever. Burris regarded him owlishly for a second, and then went on:

"The car was hitting it up at about a hundred and ten by this time, and accelerating all the time. But the souped-up squad car was coming on fast, too, and it was quite a chase. Luckily, there weren't many cars on the road. Somebody could have been killed, Malone."

"Like the driver of the Cadillac," Malone ventured.

Burris looked pained. "Not exactly," he said. "Because the car hit the 125th Street exit like a bomb. It swerved right, just as though it were going to take the exit and head off somewhere, but it was going much too fast by that time. There just wasn't any way to maneuver. The Cadillac hit the embankment, flipped over the edge, and smashed. It caught fire almost at once—of course the prowl car braked fast and went down the exit, after it. But there wasn't anything to do."

"That's what I said," Malone said. "The driver of the Cadillac was killed. In a fire like that—"

"Don't jump to conclusions, Malone," Burris said. "Wait. When the prowl car boys got to the scene, there was no sign of anybody in the car. Nobody at all."

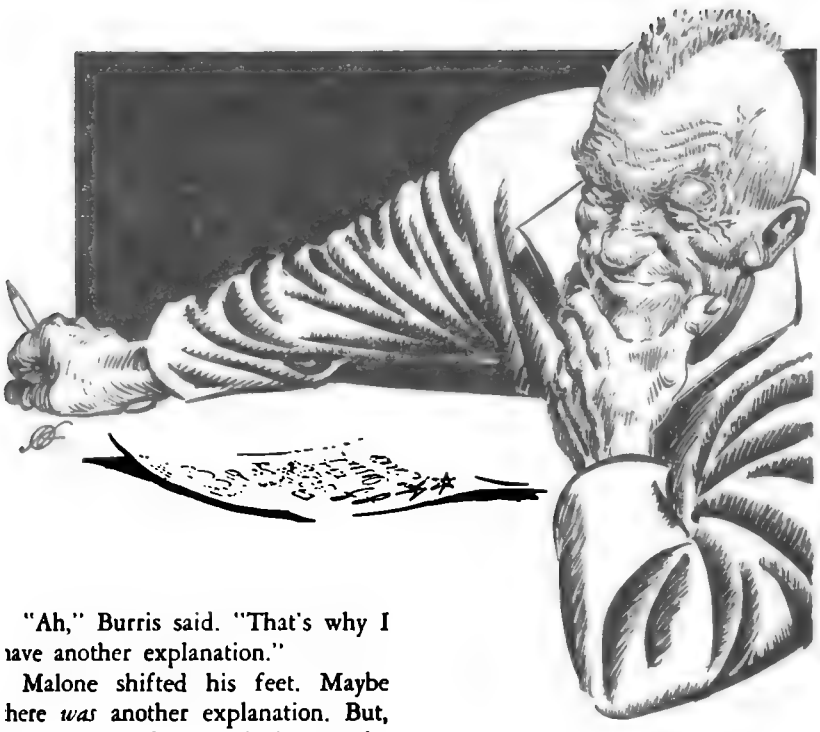
"In the heat of those flames—" Malone began.

"Not enough heat, and not enough time," Burris said. "A human body couldn't have been destroyed in just a few minutes, not that completely. Some of the car's metal was melted, sure—but there would have been traces of anybody who'd been in the car. Nice, big, easily-seen traces. And there weren't any. No corpse, no remains, no nothing."

Malone let that stew in his mind for a few seconds. "But the cops said—"

"Whatever the cops said," Burris snapped, "there was nobody at all in that Cadillac when it went off the embankment."

"Now, wait a minute," Malone said. "Here's a car with a driver who appears and disappears practically at will. Sometimes he's there and sometimes he's not there. It's not possible."



"Ah," Burris said. "That's why I ıave another explanation."

Malone shifted his feet. Maybe here *was* another explanation. But, ıe told himself, it would have to be ı good one.

"Nobody expects a car to drive itelf down a highway," Burris said.

"That's right," Malone said. 'That's why it's all impossible."

"So," Burris said, "it would be a ıatural hallucination—or illusion, .nyhow—for somebody to imagine ıe did see a driver, when there vasn't any."

"O.K.," Malone said. "There vasn't any driver. So the car ouldn't have gone anywhere. So the New York police force is lying to ıs. It's a good explanation, but it—"

"They aren't lying," Burris said. "Why should they? I'm thinking of something else." He stopped, his eyes bright as he leaned across the desk toward Malone.

"Do I get three guesses?" Malone said.

Burris ignored him. "Frankly," he said, "I've got a hunch that the whole thing was done with remote control. Somewhere in that car was a very cleverly concealed device that was capable of running the Cadillac from a distance."

It did sound plausible, Malone thought. "Did the prowl car boys

find any traces of it when they examined the wreckage?" he said.

"Not a thing," Burris said. "But, after all, it could have been melted. The fire did destroy a lot of the Cadillac, and there's just no telling. But I'd give long odds that there must have been some kind of robot device in that car. It's the only answer, isn't it?"

"I suppose so," Malone said.

"Malone," Burris said, his voice filled with Devotion To One's Country In The Face Of Great Obstacles, "Malone, I want you to find that device!"

"In the wreck?" Malone said.

Burris sighed and leaned back. "No," he said. "Of course not. Not in the wreck. But the other red Cadillacs—some of them, anyhow—ought to have—"

"What red Cadillacs?" Malone said.

"The other ones that have been stolen. From Connecticut, mostly. One from New Jersey, out near Passaic."

"Have any of the others been moving around without drivers?" Malone said.

"Well," Burris said, "there's been no report of it. But who can tell?" He gestured with both arms. "Anything is possible, Malone."

"Sure," Malone said.

"Now," Burris said, "all of the stolen cars are red 1972 Cadillacs. There's got to be some reason for that—and I think they're covering up another car like the one that got smashed: a remote-controlled Cadillac. Or even a self-guiding, automatic, robot-controlled Cadillac."

"They?" Malone said. "Who?"

"Whoever is stealing the cars," Burris said patiently.

"Oh," Malone said. "Sure. But—"

"So get up to New York," Burris said, "keep your eyes open, and nose around. Got it?"

"I have now," Malone said.

"And when that Cadillac is found, Malone, we want to take a look at it. O.K.?"

"Yes, sir," Malone said.

III.

Of course, there were written reports, too. Burris had handed Malone a sheaf of them—copies of the New York police reports to Burris himself—and Malone, wanting some time to look through them, had taken a train to New York instead of a plane. Besides, the new planes still made him slightly nervous, though he could ride one when he had to. If jet engines had been good enough for the last generation, he thought, they were certainly good enough for him.

But avoidance of the new planes was all the good the train trip did him. The reports contained thousands of words, none of which was either new or, apparently, significant to Malone. Burris, he considered, had given him everything necessary for the job.

Except, of course, a way to make sense out of the whole thing. He considered robot-controlled Cadillacs. What good were they? They might make it easier for the average driver, of course—but that was no reason to cover up for them, hitting policemen over the head and smashing cars and driving a hundred and ten miles an hour on the West Side Highway.

All the same, it was the only explanation Malone had, and he cherished it deeply. He put the papers back in his brief case when the train pulled into Penn Station, handed his suitcases to a redcap and punched the 'cap's buttons for the waiting room. Now, he thought as he strolled slowly along behind the robot, there was an invention that made sense. And nobody had to get killed for it, or hit over the head or smashed up, had they?

So what was all this nonsense about red robot-controlled Cadillacs?

Driving these unwelcome reflections from his mind, he paused to light a cigarette. He had barely taken the first puff when a familiar voice said: "Hey, buddy—hold the light, will you?"

Malone looked up, blinked and grinned happily. "Boyd!" he said. "What are you doing here? I haven't seen you since—"

"Sure haven't," Boyd said. "I've been out west on a couple of cases. Must be a year since we worked together."

"Just about," Malone said. "But what are you doing in New York? Vacationing?"

"Not exactly," Boyd said. "The chief called it sort of a vacation, but—"

"Oh," Malone said. "You're working with me."

Boyd nodded. "The chief sent me up. When I got back from the west, he suddenly decided you might need a good assistant, so I took the plane down, and got here ahead of you."

"Great," Malone said. "But I want to warn you about the vacation—"

"Never mind," Boyd said, just a shade sadly. "I know. It isn't." He seemed deep in thought, as if he were deciding whether or not to get rid of Anne Boleyn. It was, Malone thought, an unusually apt simile. Boyd, six feet tall and weighing about two hundred and twenty-five pounds, had a large square face and a broad-beamed figure that might have made him a dead ringer for Henry VIII of England even without his Henry-like fringe of beard and his mustache. With them—thanks to the recent FBI rule that agents could wear "facial hair, at the discretion of the director or such board as he may appoint"—the resemblance to the Tudor monarch was uncanny.

But—like his famous double—Boyd didn't stay sad for long. "I thought I'd meet you at the station," he said, cheering up, "and maybe talk over old times for a while, on the way to the hotel, anyhow. So long as there wasn't anything else to do."

"Sure," Malone said. "It's good to see you again. And when did you

get pulled out of the Frisco office?"

Boyd grimaced. "You know," he said, "I had a good thing going for me out there. Agent-in-Charge of the entire office. But right after that job we did together—the Queen Elizabeth affair—Burris decided I was too good a man to waste my fragrance on the desert air. Or whatever it is. So he recalled me, assigned me from the home office, and I've been on one case after another ever since."

"You're a home office agent now?" Malone said.

"I'm a Roving Reporter," Boyd said, and struck a pose. "I'm a General Trouble-shooter and a Mr. Fix-It. Just like you, Hero."

"Thanks," Malone said. "How about the local office here? Seen the boys yet?"

Boyd shook his head. "Not yet," he said. "I was waiting for you to show up. But I did manage hotel rooms with a connecting bath over at the Statler-Hilton Hotel. Nice place. You'll like it, Ken."

"I'll love it," Malone said. "Especially that connecting bath. It would have been terrible to have an unconnecting bath. Sort of distracting."

"O.K.," Boyd said. "O.K. You know what I mean." He stared down at Malone's hand. "You know you've still got your lighter on?" he added.

Malone looked down at it and shut it off. "You asked me to hold it," he said.

"I didn't mean indefinitely," Boyd said. "Anyhow, how about grabbing a cab and heading on down to the hotel to get your stuff away, before we check in at Sixty-ninth Street?"

"Good idea," Malone said. "And besides, I could do with a clean shirt. Not to mention a bath."

"Trains get worse and worse," Boyd said, absently.

Malone punched the redcap's buttons again, and he and Boyd followed it through the crowded station to the taxi stand. The robot piled the suitcases into the cab, and somehow Malone and Boyd found room for themselves.

"Statler-Hilton Hotel," Boyd said grandly.

The driver swung around to stare at them, blinked, and finally said: "O.K., Mac. You said it." He started with a terrific grinding of gears, drove out of the Penn Station arch and went two blocks.

"Here you are, Mac," he said, stopping the cab.

Malone stared at Boyd with a reproachful expression.

"So how was I to know?" Boyd said. "I didn't know. If I'd known it was so close, we could've walked."

"And saved half a buck," Malone said. "But don't let it bother you—this is expense account money."

"That's right," Boyd said. He beamed and tipped the driver heavily. The cab drove off and Malone hailed the doorman, who equipped them with a robot bellhop and sent them upstairs to their rooms.

Three-quarters of an hour later, Boyd and Malone were in the offices

of the Federal Bureau of Investigation, on East Sixty-ninth Street. There, they picked up a lot of nice, new, shiny facts. It was unfortunate, if not particularly surprising, that the facts did not seem to make any sense.

In the first place, only red 1972 Cadillacs seemed to be involved. Anybody who owned such a car was likely to find it missing at any time; there had been a lot of thefts reported, including some that hadn't had time to get into Burris' reports. New Jersey now claimed two victims, and New York had three of its own.

And all the cars weren't turning up in New York, by any means. Some of the New York cars had turned up in New Jersey. Some had turned up in Connecticut—including one of the New Jersey cars. So far, there had been neither thefts nor discoveries from Pennsylvania, but Malone couldn't see why.

There was absolutely no pattern that he, Boyd, or anyone else could find. The list of thefts and recoveries had been fed into an electronic calculator, which had neatly regurgitated them without being in the least helpful. It had remarked that the square of seven was forty-nine, but this was traced to a defect in the mechanism.

Whoever was borrowing the red Caddies exhibited a peculiar combination of burglarious genius and what looked to Malone like outright idiocy. This was plainly impossible.

Unfortunately, it had happened.

Locking the car doors didn't do a bit of good. The thief or thieves got in without so much as scratching the lock. This, obviously, proved that the criminal was either an extremely good lock-pick or knew where to get duplicate keys.

However, the ignition was invariably shorted across.

This proved neatly that the criminal was not a very good lock-pick, and did not know where to get duplicate keys.

Query: why work so hard on the doors, and not work at all on the ignition?

That was the first place. The second place was just what had been bothering Malone all along. There didn't seem to be any purpose to the car thefts. They hadn't been sold, or used as getaway cars. True, teenage delinquents sometimes stole cars just to use them joyriding, or as some sort of prank.

But a car or two every night? How many joyrides can one gang take? Malone thought. And how long does it take to get tired of the same prank?

And why, Malone asked himself wearily for what was beginning to feel like the ten thousandth time, why only red Cadillacs?

Burris, he told himself, must have been right all along. The red Cadillacs were only a smoke screen for something else. Perhaps it was the robot car, perhaps not—but whatever it was, Burris' general answer was the only one that made any sense at all.

That should have been a comfort-

ing thought, Malone reflected. Somehow, though it wasn't.

After they'd finished with the files and personnel at Sixty-ninth Street, Malone and Boyd started downtown on what turned out to be a sort of unguided tour of the New York Police Department. They spoke to some of the eyewitnesses, and ended up in Centre Street asking a lot of reasonably useless questions in the Motor Vehicle Bureau. In general, they spent nearly six hours on the Affair of the Self-Propelled Cadillac, picking up a whole bundle of facts. Some of the facts they had already known. Some were new, but unhelpful.

Somehow, nobody felt much like going out for a night on the town. Instead, both agents climbed wearily into bed thinking morose and disillusioned thoughts.

And, after that, a week passed. It was filled with ennui.

Only one thing became clear. In spite of the almost identical *modus operandi* used in all the car thefts, they were obviously the work of a gang rather than a single person. This required the assumption that there was not one insane man at work, but a crew of them, all identically unbalanced.

"But the jobs are just too scattered to be the work of one man," Malone said. "To steal a car in Connecticut and drive it to the Bronx, and then steal another car in Westfield, New Jersey fifteen minutes later takes more than talent. It takes an outright for-sure magician."

This conclusion, while interesting, was not really helpful. The fact was that Malone needed more clues—or, anyhow, more facts—before he could do anything at all. And there just weren't any new facts around. He spent the week wandering morosely from one place to another, sometimes accompanied by Thomas Boyd and sometimes all alone. Time, he knew, was ticking by at its usual rate. But there wasn't a thing he could do about it.

He did try to relax and have some fun, as Burris had suggested. But he didn't seem to be able to get his mind off the case.

Boyd, after the first little while, had no such trouble. He entered the social life of the city with a whoop of joy and disappeared from sight. That was fine for Boyd, Malone reflected, but it did leave Malone himself just a little bit at loose ends.

Not that he begrudged Boyd his fun. It was nice that one of them was enjoying himself, anyway.

It was just that Malone was beginning to get fidgety. He needed to be doing something—even if it were only taking a walk.

So he took a walk, and ended up, to his own surprise, downtown near Greenwich Village.

And then he'd been bopped on the head.

IV.

The patrol car pulled up in front of St. Vincent's Hospital and one of the cops helped Malone into the Emergency Receiving Room. He

didn't feel as bad as he had a few minutes before. The motion of the car hadn't helped any, but his head seemed to be knitting a little, and his legs were a little steadier. True, he didn't feel one hundred per cent healthy, but he was beginning to think he might live, after all. And while the doctor was bandaging his head a spirit of new life began to fill the FBI agent.

He was no longer morose and undirected. He had a purpose in life, and that purpose filled him with cold determination. He was going to find the robot-operated car—or whatever it turned out to be.

The doctor, Malone noticed, was whistling "Greensleaves" under his breath as he worked. That, he supposed, was the influence of the bohemian folk-singers of Greenwich Village. But he put the noise resolutely out of his mind and concentrated on the red Cadillac.

It was one thing to think about a robot car, miles away, doing something or other to somebody you'd never heard of before. That was just theoretical, a case for solution, nothing but an ordinary job.

But when the car stepped up and bopped Malone himself on the head, it became a personal matter. Now Malone had more than a job to contend with. Now he was thinking about revenge.

He told himself: *No car in the world—not even a Cadillac—can get away with beaning Kenneth J. Malone!*

Malone was not quite certain that he agreed with Burris' idea of a self-operating car, but at least it was something to work on. A car that could reach out, crown an investigator and then drive off humming something innocent under its breath was certainly a unique and dangerous machine within the meaning of the act. Of course, there were problems attendant on this view of things; for one thing, Malone couldn't quite see how the car could have beaned him when he was ten feet away from it. But that was, he told himself uncomfortably, a minor point. He could deal with it when he felt a little better.

The important thing was the car itself. Malone jerked a little under the doctor's calm hands, and swore subvocally.

"Hold still," the doctor said. "Don't go wiggling your head around that way. Just wait quietly until the demijel sets."

Obediently, Malone froze. There was a crick in his neck, but he decided he could stand it. "My head still hurts," he said accusingly.

"Sure it still hurts," the doctor agreed.

"But you—"

"What did you expect?" the doctor said. "Even an FBI agent isn't immune to blackjacks, you know." He resumed his work on Malone's skull.

"Blackjacks?" Malone said. "What blackjacks?"

"The ones that hit you," the doctor said. "Or the one, anyhow."

Malone blinked. Somehow, though he could manage a fuzzy picture of

a car reaching out to hit him, the introduction of a blackjack into this imaginative effort confused things a little. But he resolutely ignored it.

"The bruise is just the right size and shape," the doctor said. "And that cut on your head comes from the seams on the leather casing."

"You're sure?" Malone said doubtfully. It did seem as if a car had a lot more dangerous weapons around, without resorting to blackjacks. If it had really wanted to damage him, why hadn't it hit him with the engine block?

"I'm sure," the doctor said. "I've worked in Emergency in this hospital long enough to recognize a blackjack wound."

That was a disturbing idea, in a way. It gave a new color to Malone's reflection on Greenwich Villagers. Maybe things had changed since he'd heard about them. Maybe the blackjack had supplanted the guitar. But that wasn't the important thing.

The fact that it had been a blackjack that had hit him was important. It was vital, as a matter of fact. Malone knew that perfectly well. It was a key fact in the case he was investigating.

The only trouble was that he didn't see what, if anything, it meant.

The doctor stepped back and regarded Malone's head with something like pride. "There," he said. "You'll be all right now."

"When?" Malone said.

"You're not badly hurt," the doctor said reprovingly. "You've got a slight concussion, that's all."

"A concussion?"

"Sure," the doctor said. "But it isn't serious. Just take these pills—one every two hours until they're gone—and you'll be rid of any effects within twenty-four hours." He went to a cabinet, fiddled around for a minute and came back with a small bottle containing six orange pills. They looked very large and threatening.

"Fine," Malone said doubtfully.

"You'll be all right," the doctor said, giving Malone a cheerful, confident grin. "Nothing at all to worry about." He loaded a hypojet and blasted something through the skin of Malone's upper arm. Malone swallowed hard. He knew perfectly well that he hadn't felt a thing, but he couldn't quite make himself believe it.

"That'll take care of you for tonight," the doctor said. "Get some sleep and start in on the pills when you wake up, O.K.?"

"O.K.," Malone said. It was going to make waking up something less than a pleasure, but he wanted to get well, didn't he?

Of course he did. If that Cadillac thought it was going to beat him . . .

"You can stand up now," the doctor said.

"O.K.," Malone said, trying it. "Thanks, doctor. I—"

There was a knock at the door. The doctor jerked his head around.

"Who's that?" he said.

"Me," a bass voice said, unhelpfully.

The Emergency Room door opened a crack and a face peered in. It took Malone a second to recognize Bill, the waffle-faced cop who had picked him up next to the lamp post three years or so before. "Long time no see," Malone said at random.

"What?" Bill said, and opened the door wider. He came in and closed it behind him. "It's O.K., Doc," he said to the attendant. "I'm a cop."

"Been hurt?" theI doctor said.

Bill shook his head. "Not recently," he said. "I came to see this guy." He looked at Malone. "They told me you were still here," he said.

"Who's they?" Malone said.

"Outside," Bill said. "The attendants out there. They said you were still getting stitched up."

"And quite right, too," Malone said solemnly.

"Oh," Bill said. "Sure." He fished in his pockets. "You dropped your notebook, though, and I came to give it back to you." He located the object he was hunting for and brought it out with the triumphant gesture of a man displaying the head of a dragon he has slain. "Here," he said, waving the book.

"Notebook?" Malone said. He stared at it. It was a small looseleaf book bound in cheap black plastic.

"We found it in the gutter," Bill said.

Malone took a tentative step forward and managed not to fall. He stepped back again and looked at Bill scornfully. "I wasn't even in the gutter," he said. "There are limits."

"Sure," Bill said. "But the notebook was, so I brought it along to

you. I thought you might need it or something." He handed it over to Malone with a flourish.

It wasn't Malone's notebook. In the first place, he had never owned a notebook that looked anything like that, and in the second place he hadn't had any notebooks on him when he went for his walk. *Mine not to question why,* Malone told himself with a shrug, and flipped the book open.

At once he knew why the cop had mistaken it for his.

There, right on the first page, was a carefully detailed drawing of a 1972 Cadillac. It had been painstakingly colored in with a red pencil.

Malone stared at it for a second, and then went on to page two. This page carried a list of names running down the left margin.

Ramon O.
Mario G.
Silvo E.
Felipe A.
Alvarez la B.
Juan de los S.
Ray del E.

That made sense, of a kind. It was a list of names. Whose names they were, Malone didn't know; but at least he could see the list and understand it. What puzzled him were the decorations.

Following each name was a queer-looking squiggle. Each was slightly different, and each bore some resemblance to a stick-figure, a geometrical figure or just a childish scrawl. The whole parade reminded Malone of pictures he had seen of Egyptian hieroglyphics.

But the names didn't look Egyptian, and, anyhow, nobody used hieroglyphics any more—did they?

Malone found himself thinking: *Now what does that mean?* He looked across at the facing page.

It contained a set of figures, all marked off in dollars and cents and all added up neatly. One of the additions ended with the eye-popping sum of $52,710.09, and Malone found that the sum made him slightly nervous. This was high-powered figuring.

On to page three, he told himself. Drawings again, both on that page and on the one facing it. Malone recognized an outboard motor, a storefront, a suit of clothing hanging neatly on a hanger, a motor scooter, a shotgun and an IBM Electrotyper. Whoever had done the work was a reasonably accurate artist, if untrained; the various items were easily recognizable and Malone could see a great deal of detail.

That, of course, was fine. Only it made no more sense than the rest of the notebook.

Malone riffled through a few more pages, trying to make sense of the contents. One page seemed to be a shopping list, with nothing more revealing on it than *bread, bacon, eggs (1/2 doz.), peaches (frz.), cigs., & ltr. fluid.*

There was another list, farther on. This one said: *Hist. 2, Eng. 4, Math. 3, Span. 2. What for Elec.?*

That cast the first glow of light. Whoever owned the notebook was a student. Or a teacher, Malone

hought; then, looking back at the andwriting, he decided that the wner of the notebook had to be in igh school, certainly no farther long.

He went on flipping pages. One of hem said, in large black capitals: *HE'S BLUFFING!*

A note passed in class? There was ot any way of making sure.

Malone thought about the hypothetical student for a minute. Then omething in the riffling pages caught his eye.

There were two names on the page he'd stopped at.

The first was: *Lt. Peter Lynch, NYPD.* It was followed by two little squiggles.

The second was: *Mr. Kenneth J. Malone, FBI.*

There were no squiggles after his own name, and Malone felt oddly thankful for that, without knowing exactly why. But what did the names mean? And who had—

"Uh . . . Mr. Malone—" Bill said tentatively. "That *is* your notebook, isn't it?"

"Oh," Malone said. He looked up at the cop and put on his most ingratiating smile. "Sure," he said. "It's mine. Sure it is. Just checking to see if I'd lost any pages. Not good. Losing pages out of a notebook. Never. Have to check, you know. Procedure. Very secret."

"Sure," Bill said uncertainly.

Malone took a deep breath. "Thought I'd lost the notebook," he said. "I appreciate your returning it."

"Oh," Bill said, "that's O.K., Mr. Malone. Glad to do it."

"You don't know what this means to me," Malone said truthfully.

"No trouble at all," Bill said. "Any time." He gave Malone a big smile and turned back to the door. "But I got to get back to my beat," he said. "Listen, I'll see you. And if I can be any help—"

"Sure," Malone said. "I'll let you know. And thanks again."

"Welcome," Bill said, and opened the door. He strode out with the air of a man who has just been decorated with the Silver Star, the Purple Heart and the Congressional Medal of Honor.

Malone tried a few more steps and discovered that he could walk without falling down. He thanked the doctor again.

"Perfectly all right," the doctor said. "Nothing to it. Why, you ought to see some of the cases we get here. There was a guy here the other night with both his legs all mashed up by a—"

"I'll bet," Malone said hurriedly. "Well, I've got to be on my way. Just send the bill to FBI Headquarters on Sixty-ninth Street." He closed the door on the doctor's enthusiastic: "Yes, *sir*!" and went on down the hallway and out into the street. At Seventh Avenue and Greenwich Avenue he flagged a cab.

What a place to be, Malone thought as the cab drove away. Where but in Greenwich Village did avenues intersect each other without so much as a by-your-leave?

"Statler-Hilton Hotel," he said, giving the whole thing up as a bad job. He put his hat on his head and adjusted it painfully to the proper angle.

And that, he thought, made another little problem. The car had not only hit him on the head; it had removed his hat before doing so, and then replaced it. It had only fallen off when he'd started to get up against the lamp post.

A nice quiet vacation, Malone thought bitterly.

He fumed in silence all the way to the hotel, through the lobby, up in the elevator and to the door of his room. Then he remembered the notebook.

That was important evidence. He decided to tell Boyd about it right away.

He went into the bathroom and tapped gently on the door to Boyd's connecting room. The door swung open.

Boyd, apparently, was still out painting the town—Malone considered the word *red* and dropped the whole phrase with a sigh. At any rate, his partner was nowhere in the room. He went back into his own room, closed the door and got wearily ready for bed.

Dawn came, and then daylight, and then a lot more daylight. It was streaming in through the windows with careless abandon, filling the room with a lot of bright sunshine and the muggy heat of the city. From the street below, the cheerful noises of traffic and pedestrians floated up and filled Malone's ears.

He turned over in bed, and tried to go back to sleep.

But sleep wouldn't come. After a long time he gave up, and swung himself over the edge of the bed. Standing up was a delicate job, but he managed it, feeling rather proud of himself in a dim, semiconscious sort of way.

He went into the bathroom, brushed his teeth, and then opened the connecting door to Boyd's room softly.

Boyd was home. He lay in a great tangle of bedclothes, snoring hideously and making little motions with his hands and arms like a beached whale. Malone padded over to him and dug him fiercely in the ribs.

"Come on," he said. "Wake up, Tommy-boy."

Boyd's eyes did not open. In a voice as hollow as a zombie's, he said: "My head. Hurts."

"Can't feel any worse than mine," Malone said cheerily. This, he reflected, was not quite true. Considering everything it had been through recently, his head felt remarkably like its old, carefree self. "You'll feel better once you're awake."

"No, I won't," Boyd said simply. He jammed his head under a pillow and began to snore again. It was an awesome sound, like a man strangling to death in chicken-fat. Malone sighed and poked at random among the bedclothes.

Boyd swore distantly, and Malone poked him again.

"The sun is up," Malone said, "and all the little pedestrians are chirping. It is time to rise."

Boyd said: "Gah," and withdrew his head from the pillow. Gently, as if he were afraid he were going to fall apart, he rose to a sitting position. When he had arrived at it, he opened his eyes.

"Now," Malone said, "isn't that better?"

Boyd closed his eyes again. "No," he said.

"Come on," Malone said. "We've got to be up and moving."

"I'm up," Boyd said. His eyes flickered open. "But I can't move," he added. "We had quite a time last night."

"We?" Malone said.

"Me, and a couple of girls, and another guy. Just people I met." Boyd started to stand up and thought better of it. "Just having a good time, that's all."

Malone thought of reading his partner a lecture on the Evils of Drink, and decided against it. Boyd might remember it, and use it against him some time. Then he realized what had to be done. He went back into his own room, dialed for room service, and ordered a couple of pots of strong black coffee.

By the time a good deal of that was awash in Boyd's intestinal system, he was almost capable of rational, connected conversation. He filled himself to the eyebrows with aspirins and other remedies, and actually succeeded in getting dressed. He seemed quite proud of this feat.

"O.K.," Malone said. "Now we have to go downstairs."

"You mean outside?" Boyd said. "Into all that noise?" He winced.

"Bite the bullet," Malone said cheerfully. "Keep a stiff upper lip."

"Nonsense," Boyd said, hunting for his coat with a doleful air. "Have you ever seen anybody with a loose upper lip?"

Malone, busy with his own coat, didn't bother with a reply. He managed somehow to get Boyd downstairs and bundled into a cab. They headed for Sixty-ninth Street.

There, he made several phone calls. The first, of course, was to Burris in Washington. After that he got the New York Police Commissioner on the wire and, finding that he needed still more authority, he called the Mayor and then, by long-distance to Albany, the Governor.

But by noon he had everything straightened out. He had a plan fully worked out in his mind, and he had the authority to go ahead with it. Now, he could make his final call.

"They're completely trustworthy," Burris had told him. "Not only that, but they have a clearance for this kind of special work—we've needed them before."

"Good," Malone said.

"Not only that," Burris told him. "They're good men. Maybe among the best in their field."

So Malone made his last call, to the firm of Leibowitz & Hardin, Electronic Engineers.

Then he beckoned to Boyd.

"I don't see what I've been sitting around here for, all this time," his partner complained. "I could have been home sleeping until you needed me. And—"

"I need you now," Malone said. "I want you to take over part of this plan."

Boyd nodded sourly. "Oh, all right," he said.

"Here's what I want," Malone said. "Every red 1972 Cadillac in the area is to be picked up for inspection. I don't care why—make up a reason. A general traffic check. Anything you please. You can work that end of it out with the Commissioner; he knows about it and he's willing to go along."

"Great," Boyd said. "Do you have any idea how many cars there are in a city this size?"

"Well, we don't want all of them," Malone said. "Only red 1972 Cadillacs."

"It's still a lot," Boyd said.

"If there were only three," Malone said, "we wouldn't have any problems."

"And wouldn't that be nice?" Boyd said.

"Sure," Malone said, "but it isn't true. Anyhow: I want every one of those cars checked for any oddity, no matter how small. If there's an inch-long scratch on one fender, I want to know about it. If you've got to take the cars apart, then do that."

"Me?" Boyd said. "All by myself?"

"No," Malone said. "Use your head. There'll be a team working with you. Let me explain it. Every nut, every bolt, every inch of those cars has to be examined thoroughly—got it?"

"I've got it," Boyd said, "but I don't like it. After all, Malone—"

Malone ignored him. "The Governor of New York promised his co-operation," he said, "and he said he'd get in touch with the Governors of New Jersey and Connecticut and get co-operation from that angle. So we'll have state and local police working with us."

"That's a help," Boyd said. "We'll make such a happy team of workmen. Singing as we pull the cars apart through the long day and night and . . . listen, Malone, when do you want reports on this?"

"Yesterday," Malone said.

Boyd's eyebrows raised, then lowered. "Great," he said dully.

"I don't care how you get the cars," Malone said. "If you've got to, condemn 'em. But get every last one of them. And bring them over to Leibowitz & Hardin for a complete checkup. I'll give you the address."

"Thanks," Boyd said.

"Not at all," Malone said. "Glad to be of help. And don't worry; I'll have other work to do." He paused, and then went on: "I talked to Dr. Isaac Leibowitz—he's the head of the firm out there—and he says . . ."

"Wait a minute," Boyd said.

"What?"

"You mean I don't have to take the cars apart myself? You mean this Leibowitz & Hardin, or whatever it is, will do it for me?"

"Of course," Malone said wearily.

"You're not an auto technician or an electronics man. You're an agent of the FBI."

"I was beginning to wonder," Boyd said. "After all."

"Anyhow," Malone said doggedly, "I talked to Leibowitz, and he says he can give a car a complete check in about six hours, normally."

"Six hours?" Boyd stared. "That's going to take forever," he said.

"Well, he can set up a kind of assembly-line process and turn out a car every fifteen minutes. Any better?"

Boyd nodded.

"Good," Malone said. "There can't be so many 1972 red Cadillacs in the area that we can't get through them all at that speed." He thought a minute and then added: "By the way, you might check with the Cadillac dealers around town, and find out just how many there are, sold to people living in the area."

"And while I'm doing all that," Boyd said, "what are you going to be doing?"

Malone looked at him and sighed. "I'll worry about that," he said. "Just get started."

"Suppose Leibowitz can't find anything?" Boyd said.

"If Leibowitz can't find it, it's not there," Malone said. "He can find electronic devices anywhere in any car made, he says—even if they're printed circuits hidden under the paint job."

"Pretty good," Boyd said. "But suppose he doesn't?"

"Then they aren't there," Malone said, "and we'll have to think of something else." He considered that. It sounded fine. Only he wished he knew what else there was to think of.

Well, that was just pessimism. Leibowitz would find something, and the case would be over, and he could go back to Washington and rest. In August he was going to have his vacation, anyway, and August wasn't very far away.

Malone put a smile carefully on his face and told Boyd: "Get going." He slammed his hat on his head.

Wincing, he took it off and replaced it gently. The bottle of pills was still in his pocket, but he wasn't due for another one just yet.

He had time to go over to the precinct station in the West Eighties first.

He headed outside to get another taxi.

V.

The door didn't say anything at all except "Lt. P. Lynch." Malone looked at it for a couple of seconds. He'd asked the Desk Sergeant for Lynch, shown his credentials and been directed up a set of stairs and around a hall. But he still didn't know what Lynch did, who he was, or what his name was doing in the little black notebook.

Well, he told himself, there was only one way to find out.

He opened the door.

The room was small and dark. It had a single desk in it, and three chairs, and a hatrack. There wasn't any coat or hat on the hatrack, and there was nobody in the chairs. In a fourth chair, behind the desk, a huskily-built man sat. He had steel-gray hair, a hard jaw and, Malone noticed with surprise, a faint twinkle in his eye.

"Lieutenant Lynch?" Malone said.

"Right," Lynch said. "What's the trouble?"

"I'm Kenneth J. Malone," Malone said. "FBI." He reached for his wallet and found it. He flipped it open for Lynch, who stared at it for what seemed a long, long time and then burst into laughter.

"What's so funny?" Malone asked.

Lynch laughed some more.

"Oh, come on," Malone said bitterly. "After all, there's no reason to treat an FBI agent like some kind of a—"

"FBI agent?" Lynch said. "Listen, buster, this is the funniest gag I've seen since I came on the Force. Who told you to pull it? Jablonski downstairs? Or one of the boys on the beat? I know those beat patrolmen, always on the lookout for a new joke. But this tops 'em all. This is the—"

"You're a disgrace to the Irish," Malone said tartly.

"A what?" Lynch said. "I'm not Irish."

"You talk like an Irishman," Malone said.

"I know it," Lynch said, and shrugged. "Around some precincts, you sort of pick it up. When all the other cops are . . . hey, listen. How'd we get to talking about me?"

"I said you were a disgrace to the Irish," Malone said.

"I was a—what?"

"Disgrace." Malone looked carefully at Lynch. In a fight, he considered, he might get in a lucky punch that would kill Malone. Otherwise, Malone didn't have a thing to worry about except a few months of hospitalization.

Lynch looked as if he were about to get mad, and then he looked down at Malone's wallet again and started to laugh.

"What's so funny?" Malone demanded.

He grabbed the wallet and turned it toward him. At once, of course, he realized what had happened. He had not flipped it open to his badge at all. He'd flipped it open, instead, to a card in the card-case:

KNOW ALL MEN BY THESE PRESENTS THAT Sir Kenneth Malone, Knight, is hereby formally installed with the title of

KNIGHT OF THE BATH

and this card shall signify his right to that title and his high and respected position as officer in and of

THE QUEEN'S OWN F. B. I.

In a very small voice, Malone said: "There's been a terrible mistake."

"Mistake?" Lynch said.

Malone flipped the wallet open to his FBI shield. Lynch gave it a good long examination, peering at it from every angle and holding it up to the light two or three times. He even wet his thumb and rubbed at the badge with it. At last he looked up.

"I guess you are the FBI," he said. "But what was with the gag?"

"It wasn't a gag," Malone said. "It's just—" He thought of the little old lady in Yucca Flats, the little old lady who had been the prime mover in the last case he and Boyd had worked on together. Without the little old lady, the case might never have been solved—she was an authen-

tic telepath, about the best that had ever been found.

But with her, Boyd and Malone had had enough troubles. Besides being a telepath, she was quite thoroughly insane. She had one fixed delusion: she believed she was Queen Elizabeth I.

She was still at Yucca Flats, along with the other telepaths Malone's investigation had turned up. And she still believed, quite calmly, that she was Good Queen Bess. Malone had been knighted by her during the course of the investigation. This new honor had come to him through the mail; apparently she had decided to ennoble some of her friends still further.

Malone made a note mentally to ask Boyd if he'd received one. After all, there couldn't be too many Knights of the Bath. There was no sense in letting *everybody* in.

Then he realized that he was beginning to believe everything again. There had been times, when he'd been working with the little old lady, when he had been firmly convinced that he was, in fact, the swaggering, ruthless swordsman, Sir Kenneth Malone. And even now . . .

"Well?" Lynch said.

"It's too long a story," Malone said. "And besides, it's not what I came here about."

Lynch shrugged again. "O.K.," he said. "Tell it your way."

"First," Malone said, "what's your job?"

"Me? Precinct Lieutenant."

"Of this precinct?"

Lynch stared. "What else?" he said.

"Who knows?" Malone said. He found the black notebook and passed it across to Lynch. "I'm on this red Cadillac business, you know," he said by way of introduction.

"I've been hearing about it," Lynch said. He picked up the notebook without opening it and held it like a ticking bomb. "And I mean hearing about it," he said. "We haven't had any trouble at all in this precinct."

"I know," Malone said. "I've read the reports."

"Listen, not a single red Cadillac has been stolen from here, or been reported found here. We run a tight precinct here, and let me tell you—"

"I'm sure you do a fine job," Malone said hastily. "But I want you to look at the notebook." He opened it to the page with Lynch's name on it.

Lynch opened his mouth, closed it and then took the notebook. He stared at the page for a few seconds. "What's this?" he said at last. "Another gag?"

"No gag, lieutenant," Malone said.

"It's your name and mine," Lynch said. "What is that supposed to mean?"

Malone shrugged. "Search me," he said. "The notebook was found only a couple of feet away from another car theft, last night." That was the simplest way he could think of to put it. "So I asked the Commissioner who Peter Lynch was, and he told me it was you."

"And it is," Lynch said, staring at

the notebook. He seemed to be expecting it to rise and strike him.

Malone said: "Have you got any idea who'd be writing about you and me?"

Lynch shook his head. "If I had any ideas I'd feel a lot better," he said. He wet his finger and turned the notebook pages carefully. When he saw the list of names on the second page he stopped again, and stared. This time he whistled under his breath.

Very cautiously, Malone said: "Something?"

"I'll be damned," Lynch said feelingly.

"What's wrong?" Malone said.

The police lieutenant looked up. "I don't know if it's wrong or what," he said. "It gives me sort of the willies. I know every one of these kids."

Malone took out a pill and swallowed it in a hurry. He felt exactly as if he had been given another concussion, absolutely free and without any obligation. His mouth opened but nothing came out for a long time. At last he managed to say: *"Kids?"*

"That's right," Lynch said. "What did you think?"

Malone shrugged helplessly.

"Every single one of them," Lynch said. "Right from around here."

There was a little silence.

"Who are they?" Malone said carefully.

"They're some kind of kid gang, social club, something like that," Lynch said. "They call themselves the Silent Spooks."

"The what?" It seemed to Malone that the name was just a little fancy, even for a kid gang.

"The Silent Spooks," Lynch said. "I can't help it. But here they are: Ramon Otravez, Mario Grito, Silvo Envoz, Felipe Altapor, Alvarez la Barba, Juan de los Santos and Ray del Este. Right down the line." He looked up from the notebook with a blank expression on his face. "There's only one name missing, as a matter of fact. Funny it isn't there."

Malone tried to look as if he knew what was going on. "Oh?" he said.

"Yeah," Lynch said. "The Fueyo kid—Miguel Fueyo. Everybody calls him Mike."

While interesting, this did not provide much food for thought. "Why should his name be on it especially?" Malone said.

"Because he's the leader of the gang," Lynch said. "The boss. The big shot." He pointed to the list of names. "Except for him, that's all of them—the Silent Spooks."

Malone considered the missing Mike Fueyo.

He knew perfectly well, now, why Fueyo's name was not in the book.

Who puts his own name on a list?

The notebook was Fueyo's. It had to be.

Lynch was looking at him expectantly. Malone thought of a question and asked it. "They know you?" he said.

"Sure they do," Lynch said. "They all know me. But do they know you?"

Malone thought. "They could have

heard of me," he said at last, trying to be as modest as possible.

"I guess," Lynch said grudgingly.

"How old are they?" Malone said.

"Fourteen to seventeen," Lynch said. "Somewhere in there. You know how these kid things run."

"The Silent Spooks," Malone said meditatively. It was a nice name, in a way; you just had to get used to it for a while. When he had been a kid, he'd belonged to a group that called itself the East Division Street Kids. There just wasn't much romance in a name like that. Now, the Silent Spooks—

With a wrench, he brought his mind back to the subject at hand. "Do they get into much trouble?" he said.

"Well, no," Lynch said reluctantly. "As a matter of fact, they don't. For a bunch like that, around here, they're pretty well-behaved, as far as that goes."

"What do you mean?" Malone said.

Lynch's face took on a delicately unconcerned appearance. "I don't know," he said. "They just don't get into neighborhood trouble. Maybe a scrap now and then—nothing big, though. Or maybe one of them cuts a class at school or argues with his teacher. But there's nothing unusual, and little of anything." He frowned.

Malone said: "Something's got to be wrong. What is it?"

"Well," Lynch said, "they do seem to have a lot of money to spend."

Malone sat down in a chair across the desk, and leaned eagerly toward Lynch. "Money?" he said.

"Money," Lynch said. "New clothes. Cigarettes. Malone, three of them are even supporting their parents. Old Jose Otravez—Ramon's old man—quit his job a couple of months ago, and hasn't worked since. Spends all his time in bars, and never runs out of dough—and don't tell me you can do that on Unemployment Insurance. Or Social Security payments."

"O.K.," Malone said. "I won't tell you."

"And there's others. All the others, in fact. Mike Fueyo's sister—dresses fit to kill, like a high-fashion model. And the Grito kid—"

"Wait a minute," Malone said. "From what you tell me, this isn't just a little extra money. These kids must be rolling in the stuff. Up to their ears in dough."

"Listen," Lynch said sadly. "Those kids spend more than I do. They do better than that—they spend more than I *earn*." He looked remotely sorry for himself, but not for long. "Every one of those kids spends like a drunken sailor, tossing his money away on all sorts of things."

"Like an expense account," Malone said idly. Lynch looked up. "Sorry," Malone said. "I was thinking about something else."

"I'll bet you were," Lynch said with unconcealed envy.

"No," Malone said. "Really. Listen, I'll check with Internal Revenue on that money. But have you got a list of the kids' addresses?"

"I can get one," Lynch said, and went to the door.

It closed behind him. Malone sat waiting alone for a few minutes, and then Lynch came back. "List'll be here in a minute," he said. He sat down behind his desk and reached for the notebook again. When he turned to the third page his expression changed to one of surprise.

"Be damned," said. "There does seem to be a connection, doesn't there?" He held up the picture of the red Cadillac for Malone to see.

"Sure does," Malone said. "That's why I want those addresses. If there is a connection, I sure want to find out about it."

Ten minutes later, Malone was walking out of the precinct station with the list of addresses in his pocket. He was heading for his Great Adventure, but he didn't know it. All he was thinking about was the red Cadillacs, and the eight teen-agers. "I'm going to get to the bottom of this if it takes me all summer," he said, muttering to himself.

"That's the spirit," he told himself. "Never say die."

Then, realizing he had just said it, he frowned. Perhaps it hadn't really counted. But, then again . . .

He was on his way down the steps when he hit the girl.

The mutual collision was not catastrophic. On the other hand, it was not exactly minor. It fell somewhere between the two, as an unclassifiable phenomenon of undoubted potency. Malone said: "Oog," with some fervor as the girl collided with his chest and rebounded like a handball striking a wall. Something was happening to her, but Malone had no time to spare to notice just what. He was falling through space, touching a concrete step once in a while, but not long enough to make any real acquaintance with it. It seemed to take him a long time to touch bottom, and when he had, he wondered if *touch* was quite the word.

Bottom certainly was. He had fallen backward and landed directly on his *glutei maximi,* obeying the law regarding equal and opposite reaction and several other laws involving falling bodies.

His first thought was that he was now neatly balanced. His tail had received the same treatment as his head. He wondered if a person could get concussion of the tail bones, and had reached no definite conclusion when, unexpectedly, his eyes focused again.

He was looking at a girl. That was all he saw at first. She had apparently fallen just as he had, bounced once and sat down rather hard. She was now lying flat on her back, making a sound like *"rrr"* between her teeth.

Malone discovered that he was sitting undignifiedly on the steps. He opened his mouth to say something objectionable, took another look at the girl, and shut it with a snap. This was no ordinary girl.

He smiled at her. She shook her head and sat up, still going *"rrr."* Then she stopped and said, instead: "What do you think—"

"I'm sorry," Malone said in what

he hoped was a charming, debonair and apologetic voice. It was quite a lot to get into one voice, but he tried his very hardest. "I just didn't see—"

"You didn't?" the girl said. "If you didn't, you must be completely blind."

Malone noticed with hope that there was no anger in her voice. The last thing in the world he wanted was to get this girl angry at him.

"Oh, no," Malone said. "I'm not blind. Not blind at all." He smiled at her and stood up. His face was beginning to get a little tired, but he retained the smile as he went over to her, extended a hand and pulled her to her feet.

She was something special. Her hair was long and dark, and fell in soft waves to her shoulders. The shoulders were something all by themselves, but Malone postponed consideration of them for a minute to take a look at her face.

It was heart-shaped and rather thin. She had large brown liquid eyes that could look, Malone imagined, appealing, loving, worshiping—or, like a minute ago, downright furious. Below these features, she had a straight lovely nose and a pair of lips which Malone immediately classified as Kissable.

Her figure, including the shoulders, was on the slim side, but she was

very definitely all there. Malone could not think of any parts the Creator had left out, and if there were any he didn't want to hear about them. In an instant, Malone knew that he had met the only great love of his life.

Again.

His mind was whirling and for a second he didn't know what to do. And then he remembered the Queen's Own FBI. Phrases flowered forth in his mind as if it were a garden packed corner to corner with the most exquisite varieties of blooming idiots.

"My deepest apologies, my dear," Sir Kenneth Malone said gallantly, even managing a small display bow for the occasion. "May I be of any assistance?"

The girl smiled up at him as she came to her feet. The smile was radiant and beautiful and almost loving. Malone felt as if he couldn't stand it. Tingles of the most wonderful kind ran through him, reached his toes and then ran back the other way, meeting a whole new set going forward.

"You're very nice," the girl said, and the tingles became positive waves of sensation. "Actually, it was all my fault. Please don't apologize, Mr.—" She paused, expectantly.

"Me?" Malone said, his gallantry deserting him for the second. But it returned full force before he expected it. "I'm Malone," he said. "Kenneth Joseph Malone." He had always liked the middle name he had inherited from his father, but he never had much opportunity to use it. He made the most of it now, rolling it out with all sorts of subsidiary flourishes. As a matter of fact, he barely restrained himself from putting a "Sir" before his name.

The girl's brown eyes widened just a trifle. Malone felt as if he could have fallen into them and drowned. "Oh, my," she said. "You must be a detective." And then, like the merest afterthought: "My name's Dorothy."

Dorothy. It was a beautiful name. It made Malone feel all choked up, inside. He blinked at the girl and tried to look manly and wonderful. It was an effort, but he nearly carried it off.

After a second or two he realized that she had asked him a question. He didn't want to disillusion her in any way, and, after all, an FBI agent was a kind of detective, but he thought it was only fair that she should know the whole truth about him right from the start.

"Not exactly a detective," he said.

"Not exactly?" she said, looking puzzled. She looked positively glorious when puzzled, Malone decided at once.

"That is," he said carefully, "I do detect, but not for the city of New York."

"Oh," she said. "A private eye. Is that right?"

"Well," Malone said, "no."

She looked even more puzzled. Malone hastened to explain before he got to the point where conversation was impossible.

"Federal Bureau of Investigation,"

he said. After a second he thought of a clarification and added: "FBI."

"Oh," the girl said. *"Oh."*

"But you can call me Ken," Malone said.

"All right—Ken," she said. "And you call me Dorothy."

"Sure," he said. He tried it out. "Dorothy." It felt swell.

"Well—" she said after a second.

"Oh," Malone said. "Were you looking for a detective? Because if I can help in any way—"

"Not exactly," Dorothy said. "Just a little routine business. I'll go on in and—"

Malone suddenly found himself talking without having any idea why he'd started, or what he was going to say. At first he said: *"Urr,"* as if the machine were warming up, and this stopped Dorothy and caused her to give him a rather sharp, baffled stare. Then he found some words and used them hurriedly, before they got away.

"Dorothy," he said, "would you like to take in a show this evening? I think I can get tickets to . . . well, I guess I could get tickets to almost anything, if I really tried." His expression attempted to leave no doubt that he would really try.

Dorothy appeared to consider for a moment. "Well," she said at last, "how about 'The Hot Seat'?"

Malone felt just the way he had several years before when he had bluffed his way into a gigantic pot during a Washington poker game, with only a pair of fours to work with. At the last moment, his bluff had been called.

It had, he realized, been called again. "The Hot Seat" had set some sort of record, not only for Broadway longevity, but for audience frenzy. Getting tickets for it was about the same kind of proposition as buying grass on the Moon, and getting them with absolutely no prior notice would require all the wire-pulling Malone could manage. He thought about "The Hot Seat" and wished Dorothy had picked something easy, like arranging for her to meet the Senate.

But he swallowed bravely. "I'll do my best," he said. "Got any second choice?"

"Sure," she said, and laughed. "Pick any one you want. I haven't seen them all, and the ones I have seen are worth seeing again."

"Oh," Malone said.

"I really didn't expect you to get tickets for 'The Hot Seat,' " she said.

"Nothing," Malone said, "is impossible." He grinned at her. "Meanwhile, where can I pick you up? Your home?"

Dorothy frowned and shook her head. "No," she said. "You see, I'm living with an aunt, and I . . . well, never mind." She thought for a minute. "I know," she said. "Topp's."

"What?" Malone said.

"Topp's," Dorothy said. "On Forty-second Street, just East of Broadway? It's a restaurant."

"I don't exactly know where it is," Malone said, "but if it's there, I'll find it." He looked gallant and determined. "We can get something to eat there before the show—whatever the show turns out to be."

"Fine," Dorothy said.

"How about making it at six?" Malone said.

She nodded. "Six it is," she said. "Now bye-bye." She touched her forefinger to her lips, and brushed Malone's cheek with the kissed finger.

By the time the new set of tingles had begun to evaporate, she had gone into the police station. Malone heaved a great sigh of passion, and held down a strong impulse to follow her and protect her. He wasn't quite sure what he was going to protect her from, but he felt certain that that would come to him when the time arrived.

Nevertheless, he had work to do, unpleasant as the idea had suddenly begun to seem. He pulled the list of addresses out of his pocket and looked at the first one.

Mike Fueyo.

Mike was the leader of the Silent Spooks, according to Lieutenant Lynch. Logically, therefore, he would be the first one to talk to. Malone tried to think of some good questions, but the best one he could come up with was: "Well, what about all those red Cadillacs?"

Somehow he doubted that this would provide a satisfactory reply. He checked the address again and started firmly down the street, trying to think of some better questions along the way.

VI.

The building was just off Amsterdam, in the Eighties. It had been a shining new development once, but it was beginning to slide downhill now. The metal on the windowframes was beginning to look worn, and the brickwork hadn't been cleaned in a long time. Where chain fences had once protected lonely blades of grass, children, mothers and baby carriages held sway now, and the grass was gone. Instead, the building was pretty well surrounded by a moat of sick-looking brown dirt.

Malone went into the first building and checked the name against the mailboxes there, trying to ignore the combined smells of sour milk, red pepper and here and there a whiff of unwashed humanity.

It was on the tenth floor: *Fueyo, J.* That, he supposed, would be Mike's widowed mother; Lynch had told him that much about the boy and his family. He found the elevator, which was covered with scribbles ranging from JANEY LOVES MIGUEL to startling obscenities, and rode it upstairs.

Apartment 1004 looked like every other apartment in the building, at least from the outside. Malone pressed the button and waited a second to hear the faint buzzing at the other side of the door. After a minute, he pressed it again.

The door swung open very suddenly and Malone stepped back.

A short, wrinkled, dark-eyed woman in a print housedress was eying him with deep suspicion. "My daughter is not home," she announced at once.

"I'm not looking for your daugh-

ter," Malone said. "I'd like to talk to Mike."

"Mike?" Her expression grew even more suspicious. "You want to talk to Mike?"

"That's right," Malone said.

"Ah," the woman said. "You one of those hoodlum friends he has. I'm right? You can talk to Mike when I am dead and have no control over him. For now, you can just—"

"Wait a minute," Malone said. He pulled out his wallet and flipped it open to show his badge, being very careful that he made the right flip this time. He didn't know exactly how this woman would react to The Queen's Own FBI, but he didn't especially want to find out.

She looked down at the badge without taking the wallet from him. "Hah," she said. "You're cop, eh?" Her eyes left the wallet and examined Malone from head to foot. It was perfectly plain that they didn't like what they saw. "Cop," she said again, as if to herself. It sounded like a curse.

Malone said: "Well, I—"

"You want to ask me stupid questions," she said. "That is what you want to do. I'm right?"

"I only—"

"I know nothing," she said. "Nothing of any kind." She closed her mouth and stood regarding him as if he were a particularly repulsive statue. Malone looked past her into the living room beyond the door.

It was faded, now, but it had once been bright and colorful. There was an old rug on the floor, and tables were everywhere. The one bright thing about the room was the assortment of flowers; there were flowers everywhere, in vases, in pots and even in windowboxes. There was also a lot of crockery statuary, mostly faded, chipped or worn in some way. The room looked to Malone as if its last inhabitant had died ten years before; only the flowers had been renewed. Everything else had not only the appearance of age, but the look of having been cast up as a high-water mark by the sea, which had receded and left only the tangled wreckage.

The woman cleared her throat and Malone's gaze came back to her. "I can tell you nothing," she said.

"I don't want to talk to you," Malone said again. "I want to talk to Mike."

Her eyes were very cold. "You from the police, and you want to talk to Mike. You make a joke. Only I don't think the joke is very funny."

"Joke?" Malone said. "You mean Mike's not here?"

Her gaze never wavered. "You know he is not," she said. "Ten minutes ago the policemen were taking him away to the police station. How then could he be here?"

"Ten minutes ago?" Malone blinked. Ten minutes ago he had been looking for this apartment. Probably it hadn't taken Lynch's men ten minutes to find it; they weren't strangers in New York. "He was arrested?" Malone said.

"I said so, didn't I?" the woman said. "You must be crazy or else something." Her eyes were still cold

points, but Malone saw a glow of tears behind them. Mike was her son. She did not seem surprised that the police had taken him away, but she was determined to protect him.

Malone's voice was very gentle. "Why did they arrest him?" he said.

The woman shrugged, a single sharp gesture. "You ask me this?"

"I'm not a cop," Malone said. I'm from the FBI."

"FBI?" the woman said.

"It's all right," Malone said, with all the assurance he could muster. "I only want to talk to him."

"Ah," the woman said. Tears were plain in her eyes now, glittering on the surface. "Why they take him away, I do not know. My Mike do nothing. Nothing."

"But didn't they say anything about—"

"They say?" the woman cried. "They say only they have orders from this Lieutenant Lynch. He is lieutenant at police station."

"I know," Malone said gently.

"Lieutenant Lynch wants to ask Mike questions, so police come, take him away." Her English was beginning to lose ground as tears came.

"Lynch asked for him?" Malone said. He frowned. Whatever that meant, he wanted to be there himself. And perhaps he could help the old woman in some way. Anyhow, he would try. She stared up at him stonily. "Look, Mrs. Fueyo," he said. "I'm going down there to talk to Mike right now. And if he hasn't done anything, I'll see that he goes home to you. Right away."

Her expression changed a trifle. She did not actually soften, but Malone could feel the gratitude lurking behind her eyes as if it were afraid to come out. She nodded gravely and said nothing at all. He stepped away, and she closed the door without a sound.

He stood staring at the door for a few seconds. Then he turned and punched the elevator button savagely.

There wasn't any time to lose.

He walked back to the precinct station. Knowing the way, it took him about five minutes instead of the fifteen it had taken him to find the Fueyo residence. But he still felt as if time were passing much too fast. He ran up the steps and passed right by the desk sergeant, who apparently recognized him, and said nothing as Malone charged up the stairs to Lynch's office.

It was empty.

Malone stared at it and started down the hall again without knowing where he was heading. Halfway to the stairs he met a patrolman. "Where's Lynch?" he asked.

"The lieutenant?"

Malone fumed. "Who else?" he said. "Where is he?"

"Got some kid back in the tank, or somewhere," the patrolman said. "Asking him a couple of questions, that's all." He added: "Hey, listen, buddy, why do you want to see the lieutenant? You can't just go charging in to—"

Malone was down the stairs before he'd finished. He went up to the desk.

The desk sergeant looked down. "What's it this time?" he said.

"I'm in a hurry," Malone said. "Where are the cells? I want to see Lieutenant Lynch."

The desk sergeant nodded. "O.K.," he said. "But the lieutenant ain't in any of the cells. He's back in Interrogation with some kid."

"Take me there," Malone said.

"I'll show you," the sergeant said. "On duty. Can't leave the desk." He cleared his throat and gave Malone a set of directions.

There was a door at the end of a corridor at the back of the station. It was a plain wooden door with the numeral *1* stenciled on it. Malone opened it and looked inside.

He was staring into a rather small, rather plain little room. There were absolutely no bright beam lights burning, and there didn't seem to be any rubber hoses around anywhere. There were only four chairs.

Seated in three of the chairs were Lieutenant Lynch and two other police officers. In the fourth chair, facing them, was a young boy.

He didn't look like a tough kid. He had wavy black hair, brown eyes and what Malone thought looked like a generally friendly appearance. He was slight and wiry, not over five feet five or six. And he wore an expression that was neither too eager nor hostile. It wasn't just blank, either; Malone finally pinned it down as Receptive.

He had the strangest impression that he had seen the boy somewhere before. But he couldn't remember when or where.

Lieutenant Lynch was talking.

". . . All we want, Mike, is a little information. We thought you'd be able to help us, if you wanted to. Now, how about it?"

"Sure," Mike Fueyo said. His voice was a little high, but it was well controlled and responsive. "Sure, lieutenant. I'll help if I can—but I just don't dig what you're giving me. It doesn't make sense."

Lynch stirred a little impatiently, and his voice began to carry a new bite. "I'm talking about Cadillacs," he said. "1972 Red Cadillacs."

"It's a nice car," Mike said.

"What do you know about them?" Lynch said.

"Know about them?" Mike said. "I know they're nice cars. That's about it. What else am I going to know, lieutenant? Maybe you think I own one of these big red 1972 Caddies. Maybe you think I got that kind of money. Well, listen, lieutenant, I'd like to help you out, but I'm just not—"

"The Cadillacs," Lynch said, "were —"

"Just a minute, lieutenant," Malone said. Dead silence fell with great suddenness. Lynch and all the others looked around at Malone, who smiled apologetically. "I don't want to disturb anything," he said. "But I would like to talk to Mike here for a little while."

"Oh," Lynch said sourly. "Sure. Sure."

"I'd like to ask him a couple of

questions," Malone said. "Alone."

"Alone." Lynch said. "Oh." But there was nothing for him to do, Malone knew, except bow to the inevitable. "Of course" he said. "Go right ahead."

"You can stand outside the door," Malone said. "He won't get away. And you'd better hold this." Malone, knowing perfectly well that staying armed and alone in a room with a suspect was something you just did not do—for very good reasons—unstrapped his .44 Magnum and handed it to the lieutenant.

He left reluctantly, with his men.

Malone could understand Lynch's attitude. If Malone solved the case, Lynch would not get any credit. Otherwise, it might go down in his personal record. And, of course, the NYPD would rather wrap the case up themselves; the FBI was treated as a necessary interference. Unfortunately, Malone thought, Lynch had had absolutely no choice. He sighed gently, and turned his attention to Mike Fueyo, who was still sitting in his chair.

"Now, Mike—" he began, and was interrupted.

The door opened. Lieutenant Lynch said: "If you need us, Malone, just yell."

"You'll hear me," Malone promised. The door shut.

He turned back to the boy. "Now, Mike," he began again, "my name is Malone, and I'm with the FBI. I'd like to ask you a few—"

"Gee, Mr. Malone," Mike broke in eagerly. "I'm glad you're here."

Malone said: "Well, I—"

"These cops here have been giving me a pretty rough deal, you know?" Mike said.

"I'm sure they—" Malone began.

"But I've been looking for you," Mike went on. "See, I wanted to say something to you. Something real important."

Malone leaned forward expectantly. At last he was going to get some information—perhaps the information that would break the whole case wide open. He said: "Yes?"

"Well—" Mike began, and stopped.

"You don't have to be afraid of me, Mike," Malone said. "Just tell me whatever's on your mind."

"Sure," Mike said. "It's this."

He took a deep breath. Malone clenched his fists. Now it was coming. Now he would hear the all-important fact. He waited.

Mike stuck out his tongue and blew the longest, loudest, brassiest and juiciest Bronx cheer that Malone had ever heard.

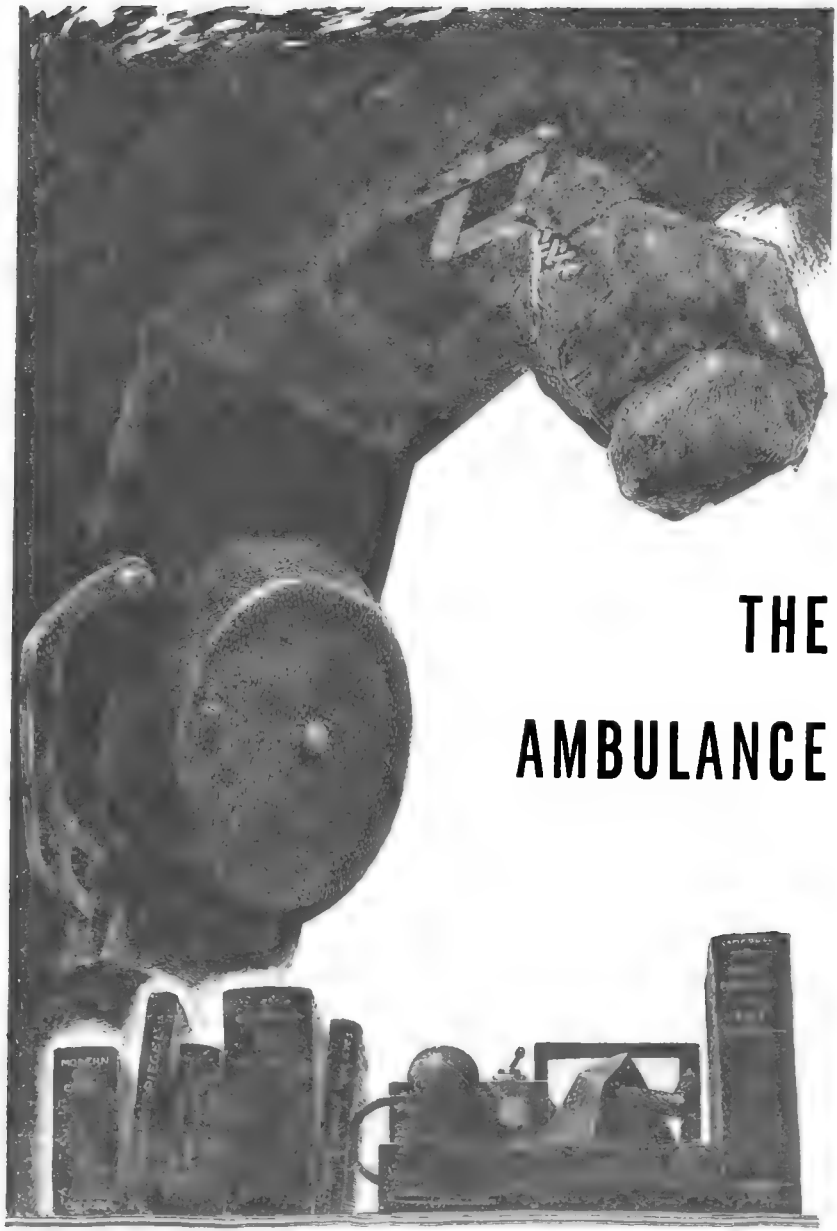
Then, almost instantly, the room was empty except for Malone himself.

Mike was gone.

There wasn't any place to hide, and there hadn't been any time to hide in. Malone looked around wildly, but he had no doubts at all.

Mike Fueyo had vanished, utterly and instantaneously. He'd gone out like a light.

TO BE CONTINUED



THE AMBULANCE

ETECTIVE Sergeant Fitzgerald found a package before his door that morning, along with the milk. He took it inside and opened it. It was a remarkably fine meerschaum pipe, such as the sergeant had longed irrationally to own for many years. There was no message with it, nor any card. He swore bitterly.

On his way to Headquarters he stopped in at the orphanage where he usually left such gifts. On other occasions he had left Scotch, a fly-rod, sets of very expensive dry-flies, and dozens of pairs of silk socks. The female head of the orphanage accepted the gift with gratitude.

MADE TWO TRIPS

By MURRAY LEINSTER

If you should set a thief to catch a thief, what does it take to stop a racketeer . . .?

Illustrated by Schoenherr

"I don't suppose," said Fitzgerald morbidly, "that any of your kids will smoke this pipe, but I want to be rid of it and for somebody to know." He paused. "Are you gettin' many other gifts on this order, from other cops? Like you used to?"

The head of the orphanage admitted that the total had dropped off. Fitzgerald went on his way, brooding. He'd been getting anonymous gifts like this ever since Big Jake Connors moved into town with bright ideas. Big Jake denied that he was the generous party. He expressed complete ignorance. But Detective Sergeant Fitzgerald knew better. The gifts were having their effect upon the Force. There was a police lieutenant whose wife had received a mink stole out of thin air and didn't speak to her husband for ten days when he gave it to the Community Drive. He wouldn't do a thing like that again! There was another sergeant—not Fitzgerald—who'd found a set of four new white-walls tires on his doorstep, and was ostracized by his teen-age offspring when he turned them into the police Lost and Found. Fitzgerald gave his gifts to an orphanage, with a fine disregard of their inappropriateness. But he gloomily suspected that a great many of his friends were weakening. The presents weren't bribes. Big Jake not only didn't ask acknowledgments of them, he denied that he was the giver. But inevitably the recipients of bounty with the morning milk felt less indignation about what Big Jake was doing and wasn't getting caught at.

At Headquarters, Detective Sergeant Fitzgerald found a memo. A memo was routine, but the contents of this one were remarkable. He scowled at it. He made phone calls, checking up on the more unlikely parts of it. Then he went to make the regular investigation.

When he reached his destination he found it an unpretentious frame building with a sign outside: "Elite Cleaners and Dyers." There were no plate-glass windows. There was nothing show-off about it. It was just a medium-sized, modestly up-to-date establishment to which lesser tailoring shops would send work for wholesale treatment. From some place in the back, puffs of steam shot out at irregular intervals. Somebody worked a steampresser on garments of one sort or another. There was a rumbling hum, as of an oversized washing-machine in operation. All seemed tranquil.

The detective went in the door. Inside there was that peculiar, professional-cleaning-fluid smell, which is not as alarming as gasoline or carbon tetrachloride, but nevertheless discourages the idea of striking a match. In the outer office a man wrote placidly on one blue-paper strip after another. He had an air of pleasant self-confidence. He glanced up briefly, nodded, wrote on three more blue-paper strips, and then gathered them all up and put them in a particular place. He turned to Fitzgerald.

"Well?"

Fitzgerald showed his shield. The man behind the counter nodded again.

"My name's Fitzgerald," grunted the detective. "The boss?"

"Me," said the man behind the counter. He was cordial. "My name's Brink. You've got something to talk to me about?"

"That's the idea," said Fitzgerald. "A coupla questions."

Brink jerked a thumb toward a door.

"Come in the other office. Chairs there, and we can sit down. What's the trouble? A complaint of some kind?"

He ushered Fitzgerald in before him. The detective found himself scowling. He'd have felt better with a different kind of man to ask questions of. This Brink looked untroubled and confident. It didn't fit the situation. The inner office looked equally matter-of-fact. No. . . . There was the shelf with the usual books of reference on textiles and such items as a cleaner-and-dyer might need to have on hand. But there were some others: *"Basic Principles of Psi" "Modern Psychokinetic Theories."* There was a small, mostly-plastic machine on another shelf. It had no obvious function. It looked as if it had some unguessable but rarely-used purpose. There was dust on it.

"What's the complaint?" repeated Brink. "Hm-m-m. A cigar?"

"No," said Detective Sergeant Fitzgerald. "I'll light my pipe." He did, extracting tobacco and a pipe that was by no means a meerschaum from his pocket. He puffed and said:" A guy who works for you caught himself on fire this mornin'. It happened on a bus. Very peculiar. The guy's name was Jacaro."

Brink did not look surprised.

"What happened?"

"It's kind of a strange thing," said Fitzgerald. "Accordin' to the report he's ridin' this bus, readin' his paper, when all of a sudden he yells an' jumps up. His pants are on fire. He get 'em off fast and chucks them out the bus window. He's blistered some but not serious, and he clams up—but good—when the ambulance doc puts salve on him. He won't say a word about what happened or how. They hadda call a ambulance because he couldn't go huntin' a doc with no pants on."

"But he's not burned badly?" asked Brink.

"No. Blisters, yes. Scared, yes. And mad as hell. But he'll get along. It's too bad. We've pinched him three times on suspicion of arson, but we couldn't make it stick. Something ought to happen to make that guy stop playin' with matches—only this wasn't matches."

"I'm glad he's only a little bit scorched," said Brink. He considered. "Did he say anything about his eyelids twitching this morning? I don't suppose he would."

The detective stared.

"He didn't. Say aren't you curious about how he came to catch on fire? Or what his pants smelled of that burned so urgent? Or where he ex-

pected burnin' to start instead of his pants?"

Brink thought it over. Then he shook his head.

"No. I don't think I'm curious."

The detective looked at him long and hard.

"O.K.," he said dourly. "But there's something else. Day before yesterday there was a car accident opposite here. Remember?"

"I wasn't here at the time," said Brink.

"There's a car rolling along the street outside," said the detective. "There's some hoods in it—guys who do dirty work for Big Jake Connors. I can't prove a thing, but it looks like they had ideas about this place. About thirty yards up the street a sawed-off shotgun goes off. Very peculiar. It sends a load of buckshot through a side window of your place."

Brink said with an air of surprise: "Oh! That must have been what broke the window!"

"Yeah," said Fitzgerald. "But the interesting thing is that the flash of the shotgun burned all the hair off the head of the guy that was doin' the drivin'. It didn't scratch him, just scorched his hair off. It scared him silly."

Brink grinned faintly, but he said pleasantly: "Tsk. Tsk. Tsk."

"He jams down the accelerator and rams a telephone pole," pursued Fitzgerald. "There's four hoods in that car, remember, and every one of 'em's got a police record you could paper a house with. And they've got four sawed-off shotguns and a tommy-gun in the back seat. They're all laid out cold when the cops arrive."

"I was wondering about the window," said Brink, pensively.

"It puzzles you, eh?" demanded the detective ironically. "Could you've figured it out that they were goin' to shoot up your plant to scare the people who work for you so they'll quit? Did you make a guess they intended to drive you outta business like they did the guy that had this place before you?"

"That's an interesting theory," said Brink encouragingly.

Detective Fitzgerald nodded.

"There's one thing more," he said formidably. "You got a delivery truck. You keep it in a garage back yonder. Yesterday you sent it to a garage for inspection of brakes an' lights an' such."

"Yes," said Brink. "I did. It's not back yet. They were busy. They'll call me when it's ready."

Fitzgerald snorted.

"They'll call you when the bomb squad gets through checkin' it! When the guys at the garage lifted the hood they started runnin'. Then they hollered copper. There was a bomb in there!"

Brink seemed to try to look surprised. He only looked interested.

"Two sticks of dynamite," the detective told him grimly, "wired up to go off when your driver turned on the ignition. He did but it didn't. But we got a police force in this town! We know there's racketeerin' bein' practiced. We know there's crooked stuff

goin' on. We even got mighty good ideas who's doin' it. But we ain't been able to get anything on anybody. Not yet. Nobody's been willin' to talk, so far. But you —."

The telephone rang stridently. Brink looked at the instrument and shrugged. He answered.

"Hello. . . No, Mr. Jacaro isn't in today. He didn't come to work. On the way downtown his pants caught on fire —"

Fitzgerald guessed that the voice at the other end of the line said *"What?* in an explosive manner.

Brink said matter-of-factly: "I said his pants caught on fire. It was probably something he was bringing here to burn the plant down with—a fire bomb. I don't think he's to blame that it went off early. He probably started out with the worst possible intentions, but something happened. . ." He listened and said: "But he didn't chicken! He couldn't come to work and plant a fire bomb to set fire to the place!. . . I know it must be upsetting to have things like that automobile accident and my truck not blowing up and now Jacaro's pants instead of my business going up in flames. But I told you —"

He stopped and listened. Once he grinned.

"Wait!" he said after a moment. He covered the transmitter and turned to Fitzgerald. "What hospital is Jacaro in?"

Fitzgerald said sourly: "He wasn't burned bad. Just blistered. They lent him some pants and he went home cussing."

"Thanks," said Brink. He uncovered the transmitter. "He went home," he told the instrument. "You can ask him about it. In a way I'm sure it wasn't his fault. I'm quite sure his eyelids twitched when he started out. I think the men who drove the car the other day had twitching eyelids, too. You should ask—"

The detective heard muted noises, as if a man shouted into a transmitter somewhere.

Brink said briskly: "No, I don't see any reason to change my mind. . . No. . . I know it was luck, if you want to put it that way, but. . . No. I wouldn't advise that! Please take my advice about when your eyelid twitches—"

Fitzgerald heard the crash of the receiver hung up at some distant place. Brink rubbed his ear. He turned back.

"Hm-m-m," he said. "Your pipe's gone out."

It was. Sergeant Fitzgerald puffed ineffectually. Brink reached out his finger and tapped the bowl of the detective's pipe. Instantly fragrant smoke filled the detective's mouth. He sputtered.

"Now. . . where were we?" asked Brink.

"Who was that?" demanded Fitzgerald ferociously. "That was Big Jake Connors!"

"You may be right," Brink told him. "He's never exactly given me his name. He just calls up every so often and talks nonsense."

"What sort of nonsense?"

"He wants to be a partner in this

business," said Brink without emotion. "He's been saying that things will happen to it otherwise. I don't believe it. Anyhow nothing's happened so far."

Detective Sergeant Fitzgerald tried at one and the same time to roar and to swallow. He accomplished neither. He put his finger in the bowl of his pipe. He jerked it out, scorched.

"Look!" he said almost hoarsely, "I was tellin' you when the phone rang! We got a police force here in town! This's what we've been tryin' to get! You come along with me to Headquarters an' swear to a complaint—"

Brink said interestedly: "Why?"

"That guy Big Jake Connors!" raged the detective. "That's why! Tryin' to threaten you into givin' him a share in your business! Tryin' to burn it down or blow it up when you won't! He was just a small-town crook, once. He went to the big town an' came back with ideas. He's usin' 'em!"

Brink looked at him expectantly.

"He started a beer business," said the detective bitterly. "Simultaneous other beer dealers started havin' trouble. Empty kegs smashed. Trucks broke down. Drivers in fights. They hadda go outta business!"

"What did the cops do?" asked Brink.

"They listened to their wives!" snarled Fitzgerald. "They begun to find little grabbag packages in the mail an' with the milk. Fancy perfume. Tricky stockin's. Fancy underwear they shoulda been ashamed for anybody to know they had it on underneath. The cops weren't bribed, but their wives liked openin' the door of a mornin' an' findin' charmin' little surprises."

"Ah," said Brink.

"Then there were juke boxes," went on the detective. "He went in that business— an' trouble started. People'd drive up to a beer joint, go in, get in a scuffle an'—bingo! The juke box smashed. Always the juke box. Always a out-of-town customer. Half the juke boxes in town weren't workin', on an average. But the ones that were workin' were always Big Jake's. Presently he had the juke-box business to himself."

Brink nodded, somehow appreciatively.

"Then it was cabs," said Fitzgerald. "A lot of cops felt bad about that. But their wives wouldn't be happy if anything happened to dear Mr. Big Jake who denied that he gave anybody anything, so it was all right to use that lovely perfume. . . Cabs got holes in their radiators. They got sand in their oil systems. They had blowouts an' leaks in brake-fluid lines. Cops' wives were afraid Big Jake would get caught. But he didn't. He started insurin' cabs against that kinda accident. Now every cab-driver pays protection-money for what they call insurance—or else. An' cops' wives get up early, bright-eyed, to see what Santa Claus left with the milk."

"You seem," said Brink with a

grin, "to hint that this Big Jake is . . . well . . . dishonest."

"Dishonest!" Fitzgerald's face was purplish, from many memories of wrongs. "There was a guy named Burdock who owned this business before you. Y'know what happened to him?"

"Yes," said Brink. "He's my brother-in-law. Connors or somebody insisted on having a share of the business and threatened dreadful things if he didn't. He didn't. So acid got spilled on clothes. Machinery got smashed. Once a whole delivery-truck load of clothes disappeared and my brother-in-law had to pay for any number of suits and dresses. It got him down. He's recovering from the nervous strain now, and my sister . . . eh, asked me to help out. So I offered to take over. He warned me I'd have the same trouble."

"And you've got it!" fumed the detective. "But anyhow you'll make a complaint. We'll get out some warrants, and we'll have somethin' to go on—"

"But nothing's happened to complain about," said Brink, quite reasonably. "One broken window's not worth a fuss."

"But somethin's goin' to happen!" insisted the detective. "That guy Big Jake is poison! He's takin' over the whole town, bit by bit! You've been lucky so far, but your luck could run out—"

Brink shook his head.

"No-o-o," he said matter-of-factly. "I'm grateful to you, Mr. Fitzgerald, but I have a special kind of luck. I won't tell you about it because you wouldn't believe but—but I can give you some of it. If you don't mind, I will."

He went to the slightly dusty, partly-plastic machine. On its shelf were some parts of metal, and some of transparent plastic, and some grayish, granular substance it was hard to identify. There was an elaborate diagram of something like an electronic circuit inside, but it might have been a molecular diagram from organic chemistry. Brink made an adjustment and pressed firmly on a special part of the machine, which did not yield at all. Then he took a slip of plastic out of a slot in the bottom.

"You can call this a good-luck charm," he said pleasantly, "or a talisman. Actually it's a psionic unit. One like it works very well, for me. Anyhow there's no harm in it. Just one thing. If your eyelids start to twitch, you'll be headed for danger or trouble or something unpleasant. So if they do twitch, stop and be very, very careful. Please!"

He handed the bit of plastic to Fitzgerald, who took it without conscious volition.

Then Brink said briskly: "If there isn't anything else—"

"You won't swear out a warrant against Big Jake?" demanded Fitzgerald bitterly.

"I haven't any reason to," said Brink amiably. "I'm doing all right. He hasn't harmed me. I don't think he will."

"O.K.!" said the detective bitterly.

"Have it your way! But he's got it in for you an' he's goin' to keep tryin' until he gets you! An' whether you like it or not, you're goin' to have some police protection as soon as I can set it up."

He stamped out of the cleaning-and-drying plant. Automatically, he put the bit of plastic in his pocket. He didn't know why. He got into his car and drove downtown. As he drove, he looked suspiciously at his pipe. He fumed. As he fumed, he swore. He did not like mysteries. But there was no mystery about his dislike for Big Jake Connors. He turned aside from the direct route to Headquarters to indulge it. He drove to a hospital where four out-of-town hoods had been carried two days before. He marched inside and up to a second-floor corridor door with a uniformed policeman seated outside it.

"Hm-m-m. Donnelly," he growled. "How about those guys?"

"Not so good," said the patrolman. "They're gettin' better."

"They would," growled Fitzgerald.

"A lawyer's been to see 'em twice," said the patrolman. "He's comin' back after lunch."

"He would," grunted the detective.

"They want out," said the cop.

"I'm not surprised," said Detective Sergeant Fitzgerald.

He went into the sick room. There were four patients in it, none of them looking exactly like gentle invalids. There were two broken noses of long-ago dates, three cauliflower ears, and one scar of a kind that is not the result of playing lawn tennis. Two were visibly bandaged, and the others adhesive-taped. All of them looked at Fitzgerald without cordiality.

"Well, well, well!" he said. "You fellas still here!" There was silence. "In union there is strength," said Fitzgerald. "As long as you stay in one room everybody's sure the others haven't started rattin'. Right?"

One of the four snarled silently at him.

"It was just a accident," pursued the detective. "You four guys are ridin' along peaceable, merrily takin' the air, when quite inadvertently one of you almost blows the head off of another, and he's so astonished at there bein' a gun in the car that he wrecks it. And when they get you guys in the hospital there ain't one of you knows anything about four sawed-off shotguns and a tommy gun in the car with you. Strange! Strange! Strange!"

Four faces regarded him with impassive dislike. The bandaged ones were prettier than the ones that weren't.

"That tommy gun business," explained Fitzgerald, "is a federal affair. It's against Fed law to carry 'em around loaded. And your friend Big Jake hasn't been leavin' presents on the White House steps. Y'know, you guys could be in trouble!"

Three pairs of eyes and an odd one—the other was hidden under a bandage—stared at him stonily.

"Y'see," explained Fitzgerald

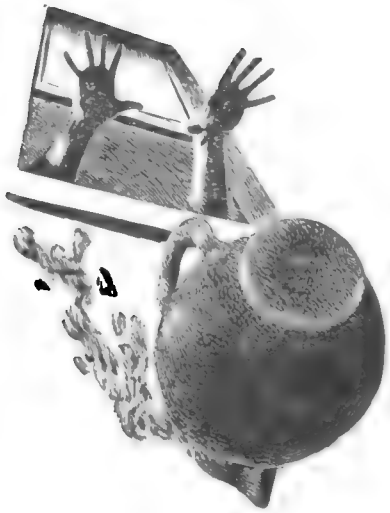
again, "Big Jake's slipped up. He hasn't realized it yet. It's my little secret. A week ago I thought he had me licked. But somethin' happened, and today I felt like I had to come around and congratulate you fellas. You got a break! You're gonna have free board and lodging for years to come! I wanted to be the first to tell you!"

He beamed at them and went out. Outside, his expression changed. He said bitterly to the cop at the door: "I bet they beat this rap!"

He went downstairs and out of the hospital. He started around the building to his car.

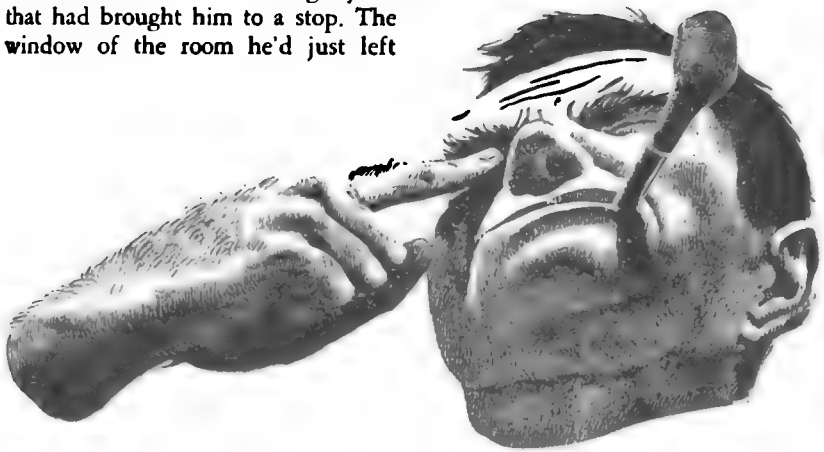
His eyelid twitched. It twitched again. It began to quiver and flutter continuously. Fitzgerald stopped short to rub the offending eye.

There was a crash. A heavy glass water-pitcher hit the cement walk immediately before him. It broke into a million pieces. He glared up. The pitcher would have hit him if it hadn't been for a twitching eyelid that had brought him to a stop. The window of the room he'd just left



was open, but there was no way to prove that a patient had gotten out of bed to heave the pitcher. And it had broken into too many pieces to offer fingerprint evidence.

"Hah!" said Fitzgerald morosely. "They're plenty confident!"



He went to Headquarters. There were more memos for his attention. One was just in. A cab had crossed a sidewalk and crashed into a plate-glass window. Its hydraulic brakes had failed. The trouble was a clean saw-cut in a pressure-line. Fitzgerald went to find out about it. The cab driver bitterly refused to answer any questions. He wouldn't even admit that he was not insured by Big Jake against such accidents. Fitzgerald stormed. The owner-driver firmly—and gloomily—refused to answer a question about whether he'd been threatened if he didn't pay protection-money.

Fitzgerald raged, on the sidewalk beside the cab in the act of being extracted from the plate-glass window. An open-mouthed bystander listened admiringly to his language. Then the detective's eyelid twitched. It twitched again, violently. Something made him look up. An employee of the plate-glass company—there were rumors that Big Jake was interesting himself in plate-glass insurance besides cabs—wrenched loose a certain spot. Fitzgerald grabbed the bystander and leaped. There was a musical crash behind him. A tall section of the shattered glass fell exactly where he had been standing. It could have been pure accident. On the other hand—

He couldn't prove anything, but he had a queer feeling as he left the scene of the crash. Back in his own car he felt chilly. Driving away, presently, he felt his eyelid tentatively. He wasn't a nervous man. Ordinarily his eyelids didn't twitch.

He went to investigate a second memo. It was a restaurant, and he edged the police car gingerly into a lane beside the building. In the rear, the odor of spilled beer filled the air. It would have been attractive but for an admixture of gasoline fumes and the fact that it was mud. Mud whose moisture-content is spilled beer has a peculiar smell all its own.

He got out of his car and gloomily asked the questions the memo called for. He didn't need to. He could have written down all the answers in advance. The restaurant now reporting vandalism had found big Jake's brand of beer unpopular. It'd had twenty cases of a superior brew brought in by motor-truck. It was stacked in a small building behind the café. For one happy evening, the customers chose their own beer.

Now, next day, there were eighteen cases of smashed beer bottles. The crime had been committed in the small hours. There were no clues. The restaurant proprietor unconvincingly declared that he had no idea who'd caused it. But he'd only notified the police so he could collect insurance—not from Big Jake.

With a sort of morbid, frustrated gloom, Detective Sergeant Fitzgerald made the necessary notes. He put his notebook in his pocket and backed his car out of the alley. Oddly enough, he thought of a beautifully carved meerschaum pipe he'd found with the milk that morning. He'd presented it to an orphanage mainly

because, irrationally, he'd have liked to keep it. There had been other expensive gifts he'd have liked to keep. Bourbon. A set of expensive dry-flies. An eight-millimeter movie camera. Scotch. Shiny, smooth silk socks that would have soothed his weary feet. He'd denied himself these gifts because he believed—he knew—that they came from Big Jake, who tactfully won friends and influenced people by making presents and denying it. In business matters he was stern, because that was the way to collect protection-money. But he was subtle with cops. He had their wives on his side.

Sergeant Fitzgerald growled in his throat. He'd always wanted a really fine meerschaum pipe. He'd had one this morning, and he'd had to get rid of it because it came from Big Jake. He felt that Big Jake had robbed him of it.

He turned the police car and drove back toward the Elite Cleaners and Dyers establishment. As he drove, he growled. His eyelid had twitched twice, and each time he'd been heading into danger or trouble. The fact was dauntingly coincidental with Brink's comment after giving him a scrap of plastic from the bottom of that crazy machine. These things were on his mind. He couldn't bring himself to plan to mention them, but he needed to talk to Brink again. Brink could testify to threats. He could justify arrests. Sergeant Fitzgerald had a fine conviction that with a chance to apply pressure, he could make some of Big Jake's hoods and collectors talk, and so bust things wide open. He only needed Brink's co-operation. He drove toward the Elite Cleaners and Dyers to put pressure on Brink toward that happy end. But he brooded over his own eyebrow-twitchings.

When the cleaning establishment came into view, there was a car parked before it. Two men from that car were in the act of entering the Elite plant through the same door the detective had used earlier. He parked his car behind the other. Fuming, he crossed the sidewalk and entered the building. As he entered, he heard a scream from the back. He heard a crashing sound and more screams.

He bolted ahead, through the outer office and into the working area he had not visited before. He burst through swinging doors into a two-story, machinery-filled cleaning-and-dyeing plant. Tables and garment racks and five separate people appeared as proper occupants of the place. But something had happened. There was a flood of liquid—detergent solution—flowing toward the open back doors of the big room. It obviously came from a large carboy which had been smashed as if to draw attention to some urgent matter.

The people in the room seemed to have frozen at their work, except that Brink had apparently been interrupted in some supervisory task. He was not working at any machine to clean, dye, dry, or press clothing. He looked at the two individuals whom Fitzgerald had seen enter only fractions of a minute earlier. His jaw clenched,

and Fitzgerald was close enough behind the bottle-breakers to see him take an angry, purposeful step toward them. Then he checked himself very deliberately, and put his hands in his pockets, and watched. After an instant he even grinned at the two figures who had preceded the detective.

They were an impressive pair. They were dressed in well-pressed garments of extravagantly fashionable cut. They wore expensive soft hats, tilted to jaunty angles. Even from the rear, Fitzgerald knew that handkerchiefs would show tastefully in the breast pockets of their coats. Their shoes had been polished until they not only shone, but glittered. But by professional instinct Fitzgerald noted one cauliflower ear, and the barest fraction of a second later he saw a squat revolver being waved negligently at the screaming women.

He reached for his service revolver. And things happened.

The situation was crystal-clear. Big Jake Connors was displeased with Brink. In all the city whose rackets he was developing and consolidating, Brink was the only man who resisted Big Jake's civic enterprise—and got away with it! And nobody who runs rackets can permit resistance. It is contagious. So Big Jake had ordered that Brink be brought into line or else. The or else alternative had run into snags, before, but it was being given a big new try.

There was the shrill high clamor of two women screaming at the tops of their voices because revolvers were waved at them. One Elite employee, at the pressing machine, took his foot off the treadle and steam billowed wildly. Another man, at a giant sheet-iron box which rumbled, stared with his mouth open and blood draining from his cheeks. Brink, alone, looked — quite impossibly — amused and satisfied.

"Get outside!" snarled a voice as Fitzgerald's revolver came out ready for action. "This joint is finished!"

The companion of the snarling man rubbed suddenly at his eye. He rubbed again, as if it twitched violently. But it was, after all, only a twitching eyelid. He reached negligently down and picked up a wooden box. By its markings, it was a dozen-bottle box of spot-remover—the stuff used to get out spots the standard cleaning fluid in the dry-cleaning machine did not remove.

The man heaved the box, with the hand with which he had rubbed his twitching eye. The other man raised a hand—the one not holding a revolver—to rub at his own eye, which also seemed to twitch agitatedly.

Detective Sergeant Fitzgerald had his revolver out. He drew in his breath for a stentorian command for them to drop their weapons. But he didn't have time to shout. The hurtling small box of spot-remover struck the large sheet-iron case from which loud rumblings came. It was a dryer; a device for spinning clothes which were wet with liquid from the dry-cleaning washer. A perforated drum revolved at high speed within it. The

box of spot-remover hit the door. The door dented in, hit the high-speed drum inside, and flew frantically out again, free from its hinges and turning end-for-end as it flew. It slammed into the thrower's companion, spraining three fingers as it knocked his revolver to the floor. The weapon slid merrily away to the outer office between Detective Fitzgerald's feet.

But this was not all. The dryer-door, having disposed of one threatening revolver, slammed violently against the wall. The wall was merely a thin partition, neatly paneled on the office side, but with shelves containing cleaning-and-dyeing supplies on the other. The impact shook the partition. Dust fell from the shelves and supplies. The hood who hadn't lost his gun sneezed so violently that his hat came off. He bent nearly double, and in the act he jarred the partition again.

Things fell from it. Many things. A two-gallon jar of extra-special detergent, used only for laces, conked him and smashed on the floor before him. It added to the stream of fluid already flowing with singular directness for the open, double, back-door of the workroom. The hood staggered, sneezed again, and convulsively pulled the trigger of his gun. The bullet hit something which was solid heavy metal, ricocheted, ricocheted again and the second hood howled and leaped wildly into the air. He came down in the flowing flood of spilled detergent, flat on his stomach, and with marked forward momentum. He slid. The floor of the plant had recently been oiled to keep down dust. The coefficient of friction of a really good detergent on top of floor-oil is remarkably low, —somewhere around point oh-oh-nine. Hood number two slid magnificently on his belly on the superb lubrication afforded by detergent on top of floor-oil.

The first hood staggered. Something else fell from the shelf. It was a carton of electric-light bulbs. Despite the protecting carton, they went off with crackings like gunfire. Technically, they did not explode but implode, but the hood with the revolver did not notice the difference. He leaped—and also landed in the middle of the wide streak of detergent-over-oil which might have been arranged to receive him.

He remained erect, but he slid slowly along that shining path. His relatively low speed was not his fault, because he went through all the motions of frenzied flight. His legs twinkled as he ran. But his feet slid backward. He moved with a sort of dignified celerity, running fast enough for ten times the speed, upon a surface which had a frictional coefficient far below that of the smoothest possible ice.

Detective Sergeant Fitzgerald gaped, his mouth dropped open and his gun held laxly in a practically nerveless hand.

The thing developed splendidly. The prone gunman slid out of the wide double door, pushing a bow-wave of detergent before him. He

slid across the cement just outside, into the open garage whose delivery-truck was absent, and slammed with a sort of deliberate violence into a stack of four cardboard drums of that bone-black which is used to filter cleaning-fluid so it can be used over again in the dry-cleaning machine. The garage was used for storage as well as shelter for the establishment's truck.

The four drums were not accurately piled. They were three and a half feet high and two feet in diameter. They toppled sedately, falling with a fine precision upon the now hatless, running, sliding hood. One of them burst upon him. A second burst upon the prone man—who had butted through the cardboard of the bottom one on his arrival. There was a dense black cloud which filled all the interior of the garage. It was bone-black, which cannot be told from lamp-black or soot by the uninitiated.

From the cloud came a despairing revolver shot. It was pure reflex action by a man who had been whammed over the head by a hundred-and-fifty-pound drum of yielding — in fact bursting — material. There was a metallic clang. Then silence.

In a very little while the dust-cloud cleared. One figure struggled insanely. Upon him descended—from an oil drum of cylinder-oil stored above the rafters—a tranquil, glistening rod of opalescent cylinder-oil. His last bullet had punctured the drum. Oil turned the bone-black upon him into a thick, sticky goo which instantly gathered more bone-black to become thicker, stickier, and gooier. He fought it, while his unconscious companion lay with his head in a crumpled cardboard container of more black stuff.

The despairing, struggling hood managed to get off one more shot, as if defying even fate and chance. This bullet likewise found a target. It burst a container of powdered dye-stuff, also stored overhead. The container practically exploded and its contents descended in a widespread shower which coated all the interior of the garage with a lovely layer of bright heliotrope.

Maybe the struggling hood saw it. If so, it broke him utterly. What had happened was starkly impossible. The only sane explanation was that he had died and was in hell. He accepted that explanation and broke into sobs.

Detective Sergeant Fitzgerald had witnessed every instant of the happening, but he did not believe it. Nevertheless, he said in a strange voice: "I'll phone for the paddy-wagon. It'll do for a ambulance, in case of need."

He put away his unused service revolver. Thinking strange, dizzy thoughts of twitching eyelids and plastic scraps and starkly incredible happenings, he managed to call for the police patrol. When he hung up, he gazed blankly at the wall. He gazed, in fact, at a spot where a peculiar small machine with no visible function reposed — somewhat dusty—on a shelf.

Brink stepped over briskly and closed the door between the scene of catastrophe and the immaculate shop. Somehow, none of the mess had spilled back through the doorway. Then he came in, frowning a little.

"The fight's out of them," he said cheerfully. "One's got a bad cut on his head. The other's completely unnerved. *Tsk! Tsk!* I hate to have such things happen!"

Sergeant Fitzgerald shook himself, as if trying to come back to a normal and a reasonable world.

"Look!" he said in a hoarse voice. "I saw it, an' I still don't believe it! Things like this don't happen! I thought you might be lucky. It ain't that. I thought I might be crazy. It ain't that! What has been goin' on?"

Brink sat down. His air was one of wry contemplation.

"I told you I had a special kind of luck you couldn't believe. Did your eyelids twitch any time today?"

Fitzgerald swallowed.

"They did. And I stopped short an' something that should've knocked my cranium down my windpipe missed me by inches. An' again—But no matter. Yes."

"Maybe you can believe it, then," said Brink. "Did you ever hear of a man named Hieronymus?"

"No," said Fitzgerald in a numbed voice. "Who's he?"

"He got a patent once," said Brink, matter-of-factly, "on a machine he believed detected something he called eloptic radiation. He thought it was a kind of radiation nobody had noticed before. He was wrong. It worked by something called psi."

Sergeant Fitzgerald shook his head. It still needed clearing.

"Psi still isn't fully understood," explained Brink, "but it will do a lot of things. For instance, it can change probability as magnetism can change temperature. You can establish a psi field in a suitable material, just as you can establish a magnetic field in steel or alnico. Now, if you spin a copper disk in a magnetic field, you get eddy currents. Keep it up, and the disk gets hot. If you're obstinate about it, you can melt the copper. It isn't the magnet, as such, that does the melting. It's the energy of the spinning disk that is changed into heat. The magnetic field simply sets up the conditions for the change of motion into heat. In the same way . . . am I boring you?"

"Confusing me," said Fitzgerald, "maybe. But keep on. Maybe I'll catch a glimmer presently."

"In the same way," said Brink, "you can try to perform violent actions in a strong psi field—a field made especially to act on violence. When you first try it you get something like eddy currents. Warnings. It can be arranged that such psi eddy currents make your eyelids twitch. Keep it up, and probability changes to shift the most-likely consequences of the violence. This is like a spinning copper disk getting hot. Then, if you're obstinate about it, you get the equivalent of the copper disk melting. Probability gets so drastically changed that the violent thing

you're trying to do becomes something that can't happen. Hm-m-m. . . . You can't spin a copper disk in a magnetic field when it melts. You can't commit a murder in a certain kind of psi field when probability goes hog-wild. Any other thing can happen to anybody else—to you, for example—but no violence can happen to the thing or person you're trying to do something violent to. The psi field has melted down ordinary probabilities. The violence you intend has become the most improbable of all conceivable things. You see?"

"I'm beginnin'," said Detective Sergeant Fitzgerald dizzily, "I'm beginnin' to get a toehold on what you mean. I'd hate to have to testify about it in court, but I'm receptive."

"So my special kind of luck," said Brink, "comes from antiviolence psi fields, set up in psi units of suitable material. They don't use up energy any more than a magnet does. But they transfer it, like a magnet does. My brother-in-law thought he had to lose his business because Big Jake threatened violent things. I offered to take it over and protect it—with psi units. So far, I have. When four hoods intended to shoot up the place and moved to do it, they were warned. Psi 'eddy currents' made their eyelids twitch. They went ahead. Probability changed. Quite unlikely things became more likely than not. They were obstinate about it, and what they intended became perhaps the only thing in the world that simply couldn't happen. So they crashed into a telephone pole. That wasn't violence. That was accident."

The detective blinked, and then nodded ,somehow painfully.

"I see," he said uncertainly.

"Somebody set a bomb in my delivery truck," added Brink. "I'm sure his eyelids twitched, but he didn't stop. So probability changed. The explosion of that bomb in my truck became the most unlikely of all possible things. In fact, it became impossible. So some electric connection went bad, and it didn't go off. Again, when Jacaro intended to plant a time fire-bomb to set the plant on fire—why—his eyelids must have twitched but he didn't give up the intention. So the psi unit naturally made the burning of the plant impossible. For it to be impossible, the fire-bomb had to go off where it would do next to no harm. Jacaro lost his pants."

He stopped. Detective Sergeant Fitzgerald swallowed carefully.

"I don't question it," he said dizzily, "even if I don't believe it. Will you now tell me that what just happened was a psi something keepin' violent things from happening?"

"That's it," agreed Brink. "The psi unit made the dryer-door fly off and knock a pistol out of a man's hand. If they'd dropped the idea of violence, that would have ended the matter. They didn't."

"I accept it," said Fitzgerald. He gulped. "Because I saw it. A court wouldn't believe it, though. Mr. Brink!"

"Well?"

"I've been tryin' for months," said Fitzgerald in sudden desperation, "to find a way to stop what Big Jake's doin'. But he's tricky. He's organized. He's got smart lawyers. Mr. Brink, if the cops could use what you've got—" Then he stopped. "It'd never be authorized," he said bitterly. "They'd never let a cop try it."

"No," agreed Brink. "Until it's believed in it can only be used privately, for private purposes. Like I've used it. Or—Hm-m-m. Do you fish, or bowl, or play golf, sergeant? I could give you a psi unit that'd help you quite a bit in such a private purpose."

Detective Sergeant Fitzgerald shook his head.

"Dry-fly fishin's my specialty," he said bitterly, 'but no thank you! When I'm pittin' myself against a trout, it's my private purpose to be a better fisherman than he's a fish. Usin' what you've got would be like dynamitin' a stream. No sport in that! No! But this Big Jake, he doesn't act sporting with the public. I'd give a lot to stop him."

"You'd get no credit for it," said Brink. "No credit at all."

"I'd get the job done!" said Fitzgerald indignantly. "A man likes credit, but he likes a lot better to get a good job done!"

Brink grinned suddenly.

"Good man!" he said approvingly. "I'll buy your idea, sergeant. If you'll play fair with a trout, you'll play fair with a crook, and an Irishman, anyhow, has a sort of inheritance—I'll give you what help I can, and you'll do things your grandfather would swear was the work of the Little People. And for a first lesson—"

"What?"

"Big Jake discourages me," said Brink. "So I'll call him up and say I'm coming to see him. I'll say if he wants this business I'll sell it to him at a fair price. But I'll say otherwise I'll tell the newspapers about his threats and the four of his hoods in the hospital and the two others on the way there. Want to come along?"

Detective Sergeant Fitzgerald reached his hand to where his service revolver reposed in its holster. Then he drew it away.

"He's a very violent man," he said hopefully. "I wouldn't wonder he tried to get pretty rough—him and the characters he has on his payroll. If they have to be stopped from bein' violent by—what is it? Psi units? Sure I'll come along! It'd ought to be most edifyin' to watch!"

There was a clanging outside. Brink and Detective Sergeant Fitzgerald delayed while the two unnerved, helpless, and formerly immaculate gunmen were loaded into the paddy-wagon and carried away—to the hospital that already held four of their ilk. Then Brink called Big Jake on the telephone.

Detective Sergeant Fitzgerald listened with increasing appreciation as Brink made his proposition and explained matter-of-factly what had

happened to Big Jake's minions who should have wrecked the Elite Cleaners and Dyers. When Brink hung up, Fitzgerald had a look of zestful anticipation on his face.

"He said to come right over," said Brink. "But he was grinding his teeth."

"Ah-h-h!" said Fitzgerald pleasurably. "I'm thinkin' of the cab-drivers an' truck drivers that've been beat up. I'm thinkin' of property smashed and honest people scared . . . Do you know, I'm terrible afraid Big Jake's too much in the habit of violence to stop, even if his eyelids twitch? It's deplorable! But on a strictly personal basis I think I'll enjoy seein' Big Jake an' his hoods discouraged by . . . what is it Psi units? Yes!"

And he did. Big Jake's eyelids undoubtedly did twitch while he was preparing a reception for Brink and Detective Sergeant Fitzgerald. But he did not heed the warning. He did not even think of the legal aspect of violent things attempted against his visitors. So he tried violence—he and his associates. They started out with fists and clubs, regardless of discretion. They tried to beat up Brink and Fitzgerald. From that they went on to sawed-off shotguns. Their efforts were still unsuccessful. Then they went to extremes.

Fitzgerald wore an expression of pious joy as Big Jake Connors and his aides, obstinately attempting violent actions, were prevented by psi units.

When it was all over, the ambulance had to make two trips.

THE END

IN TIMES TO COME

Next month's lead novelette will be "Damned If You Don't," which refers, of course, to the old, often, and sad observation that sometimes you're stuck both ways.

In this case, it has to do with the ethics, and/or economic wisdom of a utilities combine seeking to seize and monopolize an invention that threatens their business.

Old idea in science-fiction and elsewhere?

Not the way Randall Garrett works it out—because the answer, when really thought all the way through, in detail, may be slightly different than the one you expected!

THE EDITOR.

THE MISPLACED BATTLESHIP

By HARRY HARRISON

It might seem a little careless to lose track of something as big as a battleship . . . but interstellar space is on a different scale of magnitude. But a misplaced battleship—in the wrong hands!—can be most dangerous.

Illustrated by Schoenherr

HEN it comes to picking locks and cracking safes I admit to no master. The door to Inskipp's private quarters had an old-fashioned tumbler drum that was easier to pick than my teeth. I must have gone through that door without breaking step. Quiet as I was though, Inskipp still heard me. The light came on and there he was sitting up in bed pointing a .75 caliber recoilless at my sternum.

"You should have more brains than that, di Griz," he snarled. "Creeping into my room at night! You could have been shot."

"No I couldn't," I told him, as he stowed the cannon back under his pillow. "A man with a curiosity bump as big as yours will always talk first and shoot later. And besides—none of this pussyfooting around in the dark would be necessary if your screen was open and I could have got a call through."

Inskipp yawned and poured himself a glass of water from the dispenser unit above the bed. "Just because I head the Special Corps,

doesn't mean that I *am* the Special Corps," he said moistly while he drained the glass. "I have to sleep sometime. My screen is open only for emergency calls, not for every agent who needs his hand held."

"Meaning I am in the hand-holding category?" I asked with as much sweetness as I could.

"Put yourself in any category you please," he grumbled as he slumped down in the bed. "And also put yourself out into the hall and see me tomorrow during working hours."

He was at my mercy, really. He wanted sleep so much. And he was going to be wide awake so very soon.

"Do you know what this is?" I asked him, poking a large glossy pic under his long broken nose. One eye opened slowly.

"Big warship of some kind, looks like Empire lines. Now for the last time—go away!" he said.

"A very good guess for this late at night," I told him cheerily. "It is a late Empire battleship of the Warlord class. Undoubtedly one of the most truly efficient engines of destruction ever manufactured. Over a half mile of defensive screens and armament, that could probably turn any fleet existent today into fine radioactive ash—"

"Except for the fact that the last one was broken up for scrap over a thousand years ago," he mumbled.

I leaned over and put my lips close to his ear. So there would be no chance of misunderstanding. Speaking softly, but clearly.

"True, true," I said. "But wouldn't you be just a *little* bit interested if I was to tell you that one is being built today?"

Oh, it was beautiful to watch. The covers went one way and Inskipp went the other. In a single unfolding, in concerted motion he left the horizontal and recumbent and stood tensely vertical against the wall. Examining the pic of the battleship under the light. He apparently did not believe in pajama bottoms and it hurt me to see the goose-bumps rising on those thin shanks. But if the legs were thin, the voice was more than full enough to make up for the difference.

"Talk, blast you diGriz—*talk!*" he roared. "What is this nonsense about a battleship? Who's building it?"

I had my nail file out and was touching up a cuticle, holding it out for inspection before I said anything. From the corner of my eye I could see him getting purple about the face—but he kept quiet. I savored my small moment of power.

"Put diGriz in charge of the record room for a while, you said, that way he can learn the ropes. Burrowing around in century-old, dusty files will be just the thing for a free spirit like Slippery Jim diGriz. Teach him discipline. Show him what the Corps stands for. At the same time it will get the records in shape. They have been needing reorganization for quite a while."

Inskipp opened his mouth, made a choking noise, then closed it. He undoubtedly realized that any interruption would only lengthen my ex-

planation, not shorten it. I smiled and nodded at his decision, then continued.

"So you thought you had me safely out of the way. Breaking my spirit under the guise of 'giving me a little background in the Corps' activities.' In this sense your plan failed. Something else happened instead. I nosed through the files and found them most interesting. Particularly the C & M setup—the Categorizer and Memory. That building full of machinery that takes in and digests news and reports from all the planets

in the galaxy, indexes it to every category it can possibly relate, then files it. Great machine to work with. I had it digging out spaceship info for me, something I have always been interested in—"

"You should be," Inskipp interrupted rudely. "You've stolen enough of them in your time."

I gave him a hurt look and went on—slowly. "I won't bore you with all the details, since you seem impatient, but eventually I turned up this plan." He had it out of my fingers before it cleared my wallet.

"What are you getting at?" he mumbled as he ran his eyes over the blueprints. "This is an ordinary heavy-cargo and passenger job. It's no more a Warlord battleship than I am."

It is hard to curl your lips with contempt and talk at the same time, but I succeeded. "Of course. You don't expect them to file warship plans with the League Registry, do you? But, as I said, I know more than a little bit about ships. It seemed to me this thing was just too big for the use intended. Enough old ships are fuel-wasters, you don't have to build new ones to do that. This started me thinking and I punched for a complete list of ships that size that had been constructed in the past. You can imagine my surprise when, after three minutes of groaning, the C & M only produced six. One was built for self-sustaining colony attempt at the second galaxy. For all we know she is still on the way. The other five were all D-class colonizers, built during the Expansion when large populations were moved. Too big to be practical now.

"I was still teased, as I had no idea what a ship this large could be used for. So I removed the time interlock on the C & M and let it pick around through the entire history of space to see if it could find a comparison. It sure did. Right at the Golden Age of Empire expansion, the giant Warlord battleships. The machine even found a blueprint for me."

Inskipp grabbed again and began comparing the two prints. I leaned over his shoulder and pointed out the interesting parts.

"Notice—if the engine room specs are changed slightly to include this cargo hold, there is plenty of room for the brutes needed. This superstructure—obviously just tacked onto the plans—gets thrown away, and turrets take its place. The hulls are identical. A change here, a shift there, and the stodgy freighter becomes the fast battlewagon. These changes could be made during construction, then plans filed. By the time anyone in the League found out what was being built the ship would be finished and launched. Of course, this could all be coincidence—the plans of a newly built ship agreeing to six places with those of a ship built a thousand years ago. But if you think so, I will give you hundred-to-one odds you are wrong, any size bet you name."

I wasn't winning any sucker bets

that night. Inskipp had led just as crooked a youth as I had, and needed no help in smelling a fishy deal. While he pulled on his clothes he shot questions at me.

"And the name of the peace-loving planet that is building this bad-memory from the past?"

"Cittanuvo. Second planet of a B star in Corona Borealis. No other colonized planets in the system."

"Never heard of it," Inskipp said as we took the private drop chute to his office. "Which may be a good or a bad sign. Wouldn't be the first time trouble came from some out-of-the-way spot I never even knew existed."

With the automatic disregard for others of the truly dedicated, he pressed the scramble button on his desk. Very quickly sleepy-eyed clerks and assistants were bringing files and records. We went through them together.

Modesty prevented me from speaking first, but I had a very short wait before Inskipp reached the same conclusion I had. He hurled a folder the length of the room and scowled out at the harsh dawn light.

"The more I look at this thing," he said, "the fishier it gets. This planet seems to have no possible motive or use for a battleship. But they are building one—*that* I will swear on a stack of one thousand credit notes as high as this building. Yet what will they do with it when they have it built? They have an expanding culture, no unemployment, a surplus of heavy metals and ready markets for all they produce. No hereditary enemies, feuds or the like. If it wasn't for this battleship thing, I would call them an ideal League planet. I have to know more about them."

"I've already called the spaceport —in your name of course," I told him. "Ordered a fast courier ship. I'll leave within the hour."

"Aren't you getting a little ahead of yourself, diGriz," he said. Voice chill as the icecap. "I still give the orders and I'll tell you when you're ready for an independent command."

I was sweetness and light because a lot depended on his decision. "Just trying to help, chief, get things ready in case you wanted more info. And this isn't really an operation, just a reconnaissance. I can do that as well as any of the experienced operators. And it may give me the experience I need, so that some day, I, too, will be qualified to join the ranks . . ."

"All right" he said. "Stop shoveling it on while I can still breathe. Get out there. Find out what is going on. Then get back. Nothing else—and that's an order."

By the way he said it, I knew he thought there was little chance of its happening that way. Since my forced induction into the Corps six months earlier I had been stuck on this super-secret planetoid that was its headquarters and main base. I had very little sitting-down patience anyway, and it had been long since exhausted.

It had been interesting at first.

Particularly since up until the time I was drafted into the Special Corps I wasn't even certain it really existed. It was too much like a con man's nightmare to be real. A secret worry. After a few happy years of successful crime you begin to wonder how long it will last. Planetary police are all pushovers and you start to feel you can go on forever if they're your only competition. What about the League though? Don't they take any interest in crime? Just about that time you hear your first rumor of the Special Corps and it fits the bad dreams. A shadowy, powerful group that slip silently between the stars, ready to bring the interstellar lawbreaker low. Sounds like TV drama stuff. I had been quite surprised to find they really existed.

I was even more surprised when I joined them. Of course there was a little pressure at the time. I had the alternative choice of instant death. But I still think it was a wise move. Under the motto "Set a thief to catch one," the Corps supposedly made good use of men like myself to get rid of the more antisocial types that infest the universe.

This was still all hearsay to me. I had been pulled into headquarters and given routine administration work for training. Six months of this had me slightly ga-ga and I wanted out. Since no one seemed to be in a hurry to give me an assignment I had found one for myself. I had no idea of what would come if it, but I also had no intention of returning until the job was done.

A quick stop at supply and record sections gave me everything I needed. The sun was barely clear of the horizon when the silver needle of my ship lifted in the grav field, then blasted into space.

The trip took only a few days, more than enough time to memorize everything I needed to know about Cittanuvo. And the more I knew the less I could understand their need for a battleship. It didn't fit. Cittanuvo was a secondary settlement out of the Cellini system, and I had run into these settlements before. They were all united in a loose alliance and bickered a lot among themselves, but never came to blows. If anything, they shared a universal abhorrence of war.

Yet they were secretly building a battleship.

Since I was only chasing my tail with this line of thought, I put it out of my mind and worked on some tri-di chess problems. This filled the time until Cittanuvo blinked into the bow screen.

One of my most effective mottoes has always been, "Secrecy can be an obviousity." What the magicians call misdirection. Let people very obviously see what you want them to see, then they'll never notice what is hidden. This was why I landed at midday, on the largest field on the planet, after a very showy approach. I was already dressed for my role, and out of the ship before the landing braces stopped vibrating. Buckling the fur cape around my shoulders with the platinum clasp,

I stamped down the ramp. The sturdy little M-3 robot rumbled after me with my bags. Heading directly towards the main gate, I ignored the scurry of activity around the customs building. Only when a uniformed under-official of some kind ran over to me, did I give the field any attention.

Before he could talk I did, foot in the door and stay on top.

"Beautiful planet you have here. Delightful climate! Ideal spot for a country home. Friendly people, always willing to help strangers and all that I imagine. That's what I like. Makes me feel grateful. Very pleased to meet you. I am the Grand Duke Sant' Angelo." I shook his hand enthusiastically at this point and let a one hundred credit note slip into his palm.

"Now," I added, "I wonder if you would ask the customs agents to look at my bags here. Don't want to waste time, do we? The ship is open, they can check that whenever they please."

My manner, clothes, jewelry, the easy way I passed money around and the luxurious sheen of my bags, could mean only one thing. There was little that was worth smuggling into or out of Cittanuvo. Certainly nothing a rich man would be interested in. The official murmured something with a smile, spoke a few words into his phone, and the job was done.

A small wave of custom men hung stickers on my luggage, peeked into one or two for conformity's sake, and waved me through. I shook hands all around—a rustling handclasp of course—then was on my way. A cab was summoned, a hotel suggested. I nodded agreement and settled back while the robot loaded the bags about me.

The ship was completely clean. Everything I might need for the job was in my luggage. Some of it quite lethal and explosive, and very embarrassing if it was discovered in my bags. In the safety of my hotel suite I made a change of clothes and personality. After the robot had checked the rooms for bugs.

And very nice gadgets too, these Corps robots. It looked and acted like a moron M-3 all the time. It was anything but. The brain was as good as any other robot brain I have known, plus the fact that the chunky body was crammed with devices and machines of varying use. It chugged slowly around the room, moving my bags and laying out my kit. And all the time following a careful route that covered every inch of the suite. When it had finished it stopped and called the all-clear.

"All rooms checked. Results negative except for one optic bug in that wall."

"Should you be pointing like that?" I asked the robot. "Might make people suspicious, you know."

"Impossible," the robot said with mechanical surety. "I brushed against it and it is now unserviceable."

With this assurance I pulled off my flashy clothes and slipped into

the midnight black dress uniform of an admiral in the League Grand Fleet. It came complete with decorations, gold bullion, and all the necessary documents. I thought it a little showy myself, but it was just the thing to make the right impression on Cittanuvo. Like many other planets, this one was uniform-conscious. Delivery boys, street cleaners, clerks—all had to have characterictic uniforms. Much prestige attached to them, and my black dress outfit should rate as high as any uniform in the galaxy.

A long cloak would conceal the uniform while I left the hotel, but the gold-encrusted helmet and a brief case of papers were a problem. I had never explored all the possibilities of the pseudo M-3 robot, perhaps it could be of help.

"You there, short and chunky," I called. "Do you have any concealed compartments or drawers built into your steel hide? If so, let's see."

For a second I thought the robot had exploded. The thing had more drawers in it than a battery of cash registers. Big, small, flat, thin, they shot out on all sides. One held a gun and two more were stuffed with grenades; the rest were empty. I put the hat in one, the brief case in another and snapped my fingers. The drawers slid shut and its metal hide was as smooth as ever.

I pulled on a fancy sports cap, buckled the cape up tight, and was ready to go. The luggage was all booby-trapped and could defend itself. Guns, gas, poison needles, the usual sort of thing. In the last resort it would blow itself up. The M-3 went down by a freight elevator. I used a back stairs and we met in the street.

Since it was still daylight I didn't take a heli, but rented a groundcar instead. We had a leisurely drive out into the country and reached President Ferraro's house after dark.

As befitted the top official of a rich planet, the place was a mansion. But the security precautions were ludicrous to say the least. I took myself and a three hundred fifty kilo robot through the guards and alarms without causing the slightest stir. President Ferraro, a bachelor, was eating his dinner. This gave me enough undisturbed time to search his study.

There was absolutely nothing. Nothing to do with wars or battleships that is. If I had been interested in blackmail I had enough evidence in my hand to support me for life. I was looking for something bigger than political corruption, however.

When Ferraro rolled into his study after dinner the room was dark. I heard him murmur something about the servants and fumble for the switch. Before he found it, the robot closed the door and turned on the lights. I sat behind his desk, all his personal papers before me—weighted down with a pistol—and as fierce a scowl as I could raise smeared across my face. Before he got over the shock I snapped an order at him.

"Come over here and sit down, *quick!*"

The robot hustled him across the room at the same time, so he had no choice except to obey. When he saw the papers on the desk his eyes bulged and he just gurgled a little. Before he could recover I threw a thick folder in front of him.

"I am Admiral Thar, League Grand Fleet. These are my credentials. You had better check them." Since they were as good as any real admiral's I didn't worry in the slightest. Ferraro went through them as carefully as he could in his rattled state, even checking the seals under UV. It gave him time to regain a bit of control and he used it to bluster.

"What do you mean by entering my private quarters and burglaring—"

"You're in very bad trouble," I said in as gloomy a voice as I could muster.

Ferraro's tanned face went a dirty gray at my words. I pressed the advantage.

"I am arresting you for conspiracy, extortion, theft, and whatever other charges develop after a careful review of these documents. Seize him." This last order was directed at the robot who was well briefed in its role. It rumbled forward and locked its hand around Ferraro's wrist, handcuff style. He barely noticed.

"I can explain," he said desperately. "Everything can be explained. There is no need to make such charges. I don't know what papers you have there, so I wouldn't attempt to say they are all forgeries. I have many enemies you know. If the League knew the difficulties faced on a backward planet like this . . ."

"That will be entirely enough," I snapped, cutting him off with a wave of my hand. "All those questions will be answered by a court at the proper time. There is only one question I want an answer to now. Why are you building that battleship?"

The man was a great actor. His eyes opened wide, his jaw dropped, he sank back into the chair as if he had been tapped lightly with a hammer. When he managed to speak the words were completely unnecessary; he had already registered every evidence of injured innocence.

"What battleship!" he gasped.

"The Warlord class battleship that is being built at the Cenerentola Spaceyards. Disguised behind these blueprints." I threw them across the desk to him, and pointed to one corner. "Those are your initials there, authorizing construction."

Ferraro still had the baffled act going as he fumbled with the papers, examined the initials and such. I gave him plenty of time. He finally put them down, shaking his head.

"I know nothing about any battleship. These are the plans for a new cargo liner. Those are my initials, I recall putting them there."

I phrased my question carefully, as I had him right where I wanted him now. "You deny any knowledge of the Warlord battleship that is being

built from these modified plans."

"These are the plans for an ordinary passenger-freighter, that is all I know."

His words had the simple innocence of a young child's. Was he ever caught. I sat back with a relaxed sigh and lit a cigar.

"Wouldn't you be interested in knowing something about that robot who is holding you," I said. He looked down, as if aware for the first time that the robot had been holding him by the wrist during the interview. "That is no ordinary robot. It has a number of interesting devices built into its fingertips. Thermocouples, galvanometers, things like that. While you talked it registered your skin temperature, blood pressure, amount of perspiration and such. In other words it is an efficient and fast working lie detector. We will now hear all about your lies."

Ferraro pulled away from the robot's hand as if it had been a poisonous snake. I blew a relaxed smoke ring. "Report," I said to the robot. "Has this man told any lies?"

"Many" the robot said. "Exactly seventy-four per cent of all statements he made were false."

"Very good," I nodded, throwing the last lock on my trap. "That means he knows all about this battleship."

"The subject has no knowledge of the battleship," the robot said coldly. "All of his statements concerning the construction of this ship were true."

Now it was my turn for the gaping and eye-popping act while Ferraro pulled himself together. He had no idea I wasn't interested in his other hanky-panky, but could tell I had had a low blow. It took an effort, but I managed to get my mind back into gear and consider the evidence.

If President Ferraro didn't know about the battleship, he must have

been taken in by the cover-up job. But if he wasn't responsible—who was? Some militaristic clique that meant to overthrow him and take power? I didn't know enough about the planet, so I enlisted Ferraro on my side.

This was easy—even without the threat of exposure of the documents I had found in his files. Using their disclosure as a prod I could have made him jump through hoops. It wasn't necessary. As soon as I showed him the different blueprints and explained the possibilities he understood. If anything, he was more eager than I was to find out who was using his administration as a cat's-paw. By silent agreement the documents were forgotten.

We agreed that the next logical step would be the Cenerentola Spaceyards. He had some idea of sniffing around quietly first, trying to get a line to his political opponents. I gave him to understand that the League, and the League Navy in particular, wanted to stop the construction of the battleship. After that he could play his politics. With this point understood he called his car and squadron of guards and we made a parade to the shipyards. It was a four-hour drive and we made plans on the way down.

The spaceyard manager was named Rocca, and he was happily asleep when we arrived. But not for long. The parade of uniforms and guns in the middle of the night had him frightened into a state where he could hardly walk. I imagine he was as full of petty larceny as Ferraro. No innocent man could have looked so terror stricken. Taking advantage of the situation, I latched my motorized lie detector onto him and began snapping the questions.

Even before I had all the answers I began to get the drift of things. They were a little frightening, too. The manager of the spaceyard that was building the ship had no idea of its true nature.

Anyone with less self-esteem than myself—or who had led a more honest early life—might have doubted his own reasoning at that moment. I didn't. The ship on the ways *still* resembled a warship to six places. And knowing human nature the way I do, that was too much of a coincidence to expect. Occam's razor always points the way. If there are two choices to take, take the simpler. In this case I chose the natural aquisitive instinct of man as opposed to blind chance and accident. Nevertheless I put the theory to the test.

Looking over the original blueprints again, the big superstructure hit my eye. In order to turn the ship into a warship that would have to be one of the first things to go.

"Rocca!" I barked, in what I hoped was authentic old space-dog manner. "Look at these plans, at this space-going front porch here. Is it still being built onto the ship?"

He shook his head at once and said, "No, the plans were changed. We had to fit in some kind of new

meteor-repelling gear for operating in the planetary debris belt."

I flipped through my case and drew out a plan. "Does your new gear look anything like this?" I asked, throwing it across the table to him.

He rubbed his jaw while he looked at it. "Well," he said hesitatingly, "I don't want to say for certain. After all these details aren't in my department, I'm just responsible for final assembly, not unit work. But this surely looks like the thing they installed. Big thing. Lots of power leads—"

It was a battleship all right, no doubt of that now. I was mentally reaching around to pat myself on the back when the meaning of his words sank in.

"Installed!" I shouted. "Did you say installed?"

Rocca collapsed away from my roar and gnawed his nails. "Yes—" he said, "not too long ago. I remember there was some trouble . . ."

"And what else!" I interrupted him. Cold moisture was beginning to collect along my spine now. "The drives, controls—are they in, too?"

"Why, yes," he said. "How did you know? The normal scheduling was changed around, causing a great deal of unnecessary trouble."

The cold sweat was now a running river of fear. I was beginning to have the feeling that I had been missing the boat all along the line. The original estimated date of completion was nearly a year away. But there was no real reason why that couldn't be changed, too.

"Cars! Guns!" I bellowed. "To the spaceyard. If that ship is anywhere near completion, we are in big, *big* trouble!"

All the bored guards had a great time with the sirens, lights, accelerators on the floor and that sort of thing. We blasted a screaming hole through the night right to the spaceyard and through the gate.

It didn't make any difference, we were still too late. A uniformed watchman frantically waved to us and the whole convoy jerked to a stop.

The ship was gone.

Rocca couldn't believe it, neither could the president. They wandered up and down the empty ways where it had been built. I just crunched down in the back of the car, chewing my cigar to pieces and cursing myself for being a fool.

I had missed the obvious fact, being carried away by the thought of a planetary government building a warship. The government was involved for sure—but only as a pawn. No little planet-bound political mind could have dreamed up as big a scheme as this. I smelled a rat—a stainless steel one. Someone who operated the way I had done before my conversion.

Now that the rodent was well out of the bag I knew just where to look, and had a pretty good idea of what I would find. Rocca, the spaceyard manager, had staggered back and was pulling at his hair, cursing and cry-

ing at the same time. President Ferraro had his gun out and was staring at it grimly. It was hard to tell if he was thinking of murder or suicide. I didn't care which. All he had to worry about was the next election, when the voters and the political competition would carve him up for losing the ship. My troubles were a little bigger.

I had to find the battleship before it blasted its way across the galaxy.

"Rocca!" I shouted. "Get into the car. I want to see your records—*all* of your records—and I want to see them right now."

He climbed wearily in and had directed the driver before he fully realized what was happening. Blinking at the sickly light of dawn brought him slowly back to reality.

"But . . . admiral . . . the hour! Everyone will be asleep . . ."

I just growled, but it was enough. Rocca caught the idea from my expression and grabbed the car phone. The office doors were open when we got there.

Normally I curse the paper tangles of bureaucracy, but this was one time when I blessed them all. These people had it down to a fine science. Not a rivet fell, but that its fall was noted—in quintuplicate. And later followed up with a memo, *rivet, wastage, query.* The facts I needed were all neatly tucked away in their paper catacombs. All I had to do was sniff them out. I didn't try to look for first causes, this would have taken too long. Instead I concentrated my attention on the recent modifications, like the gun turret, that would quickly give me a trail to the guilty parties.

Once the clerks understood what I had in mind they hurled themselves into their work, urged on by the fires of patriotism and the burning voices of their superiors. All I had to do was suggest a line of search and the relevant documents would begin appearing at once.

Bit by bit a pattern started to emerge. A delicate webwork of forgery, bribery, chicanery and falsehood. It could only have been conceived by a mind as brilliantly crooked as my own. I chewed my lip with jealousy. Like all great ideas, this one was basically simple.

A party or parties unknown had neatly warped the ship construction program to their own ends. Undoubtedly they had started the program for the giant transport, that would have to be checked later. And once the program was underway, it had been guided with a skill that bordered on genius. Orders were originated in many places, passed on, changed and shuffled. I painfully traced each one to its source. Many times the source was a forgery. Some changes seemed to be unexplainable, until I noticed the officers in question had a temporary secretary while their normal assistants were ill. All the girls had food poisoning, a regular epidemic it seemed. Each of them in turn had been replaced by the same girl. She stayed just long enough in each position to see that the battleship plan moved forward one more notch.

This girl was obviously the assistant to the Mastermind who originated the scheme. He sat in the center of the plot, like a spider on its web, pulling the strings that set things into motion. My first thought that a gang was involved proved wrong. All my secondary suspects turned out to be simple forgeries, not individuals. In the few cases where forgery wasn't adequate, my mysterious *X* had apparently hired himself to do the job. *X* himself had the permanent job of Assistant Engineering Designer. One by one the untangled threads ran to this office. He also had a secretary whose "illnesses" coincided with her employment in other offices.

When I straightened up from my desk the ache in my back stabbed like a hot wire. I swallowed a painkiller and looked around at my drooping, sack-eyed assistants who had shared the sleepless seventy-two hour task. They sat or slumped against the furniture, waiting for my conclusions. Even President Ferraro was there, his hair looking scraggly where he had pulled out handfuls.

"You've found them, the criminal ring?" he asked, his fingers groping over his scalp for a fresh hold.

"I have found them, yes," I said hoarsely. "But not a criminal ring. An inspired master criminal—who apparently has more executive ability in one ear lobe than all your bribe-bloated bureaucrats—and his female assistant. They pulled the entire job by themselves. His name, or undoubtedly pseudoname, is Pepe Nero. The girl is called Angelina . . ."

"Arrest them at once! Guards . . . guards—" Ferraro's voice died away as he ran out of the room. I talked to his vanishing back.

"That is just what we intend to do, but it's a little difficult at the moment since they are the ones who not only built the battleship, but undoubtedly stole it as well. It was fully automated so no crew is necessary."

"What do you plan to do?" one of the clerks asked.

"I shall do nothing," I told him, with the snapped precision of an old space dog. "The League fleet is already closing in on the renegades and you will be informed of the capture. Thank you for your assistance."

I threw them as snappy a salute as I could muster and they filed out. Staring gloomily at their backs I envied for one moment their simple faith in the League Navy. When in reality the vengeful fleet was just as imaginary as my admiral's rating. This was still a job for the Corps. Inskipp would have to be given the latest information at once. I had sent him a psigram about the theft, but there was no answer as yet. Maybe the identity of the thieves would stir some response out of him.

My message was in code, but it could be quickly broken if someone wanted to try hard enough. I took it to the message center myself. The psiman was in his transparent cubicle and I locked myself in with him. His eyes were unfocused as he spoke softly into a mike, pulling in a mes-

(*Continued on page 99*)

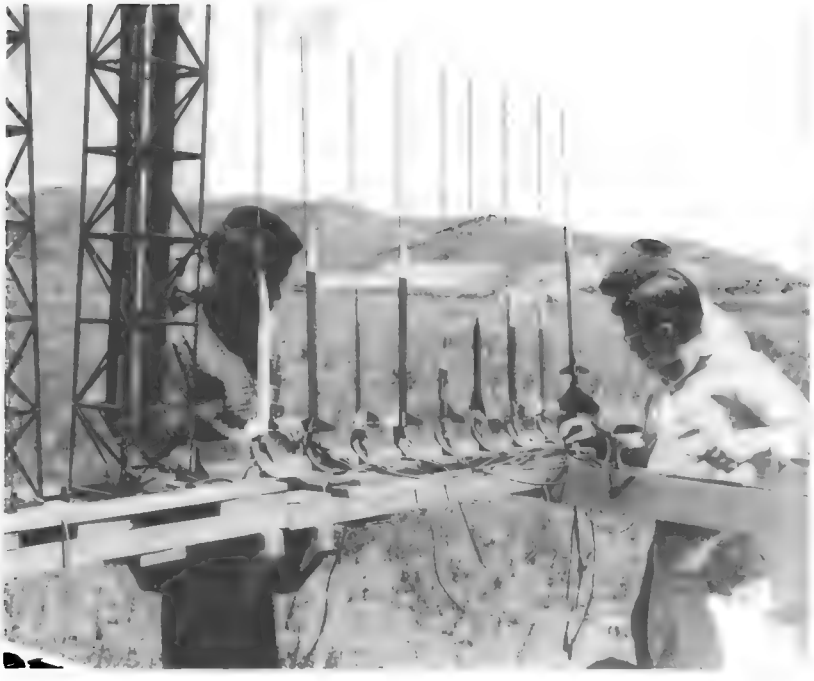
DEMON IN A BOTTLE

By G. Harry Stine

Rocketry started as an amateur hobby; it's grown to a profession. And whenever there's a profession, there's going to be model-workers. And that brings us not-quite-full-circle to the present-day hobby rocketeer, with his bottled demons!

HE reason why you haven't seen "Lee Correy" in ASF for the past two years is because I have, among other ings, been busy taming the fire mons and putting them to work. In other words, I've been building cket engines. Not for myself, and not for the government . . . but for hobbyists and teen-agers.

The thing that lit my fuse on this project was the fact that kids, science teachers, and even adults who should know better were attempting to harness one of the nastiest, dirtiest, most unpredictable, and most powerful of all demons: fire. Now, we've lived



Meanwhile, back at the launching pad, NAR junior rocketeers make a final check of their models on the launchers. All NAR-approved models must be fired electrically. Note the wide variety of designs and the two-staged model on the right. (Photo by author.)

with fire for some umpteen-thousand years, and although buildings still burn down and babies get their fingers burned, we've done a pretty fair job of understanding the fire demon and controlling it. BUT, to control Old Demon Fire, you must know and understand the rituals, evocations, formulary, and methodology which allow you to do so. Fire, out of control, ravages forests and homes. Under control, it heats homes, makes metallurgy possible, and allows you to climb in your old Chevvy to go after groceries, among other things. Harnessing the fire demon and understanding the process of combustion has been primarily responsible for our technological progress.

Youngsters, by their very nature, get quite interested in current scientific achievements. This is a darned good thing, because they eventually grow up, many of them to become

scientists in their own right. Those that do not become scientists or engineers nevertheless have a better understanding of the culture in which they live. And there's no getting around it: we live in a technological culture, and those citizens who do not have some basic knowledge of the

Norman Mains, Jr., 16, of Denver, Colorado, the 1959 National Champion Model Rocketeer loads his scale model of the "Purr-Kee" sounding rocket into the six-foot steel launching tower at Hogback Rocket Range. Towers were made from commercial kits. (Photo by author.)

technologies which make the culture tick just aren't good citizens.

The advancing state of the art of rocketry has captured the imaginations of the last two generations. Quite naturally, the kids don't sit back and content themselves with just reading about it. They know as well as you and I that science is based upon experimentation.

So they experiment.

The newspapers have been full of the unsuccessful results of their experiments. Full of enthusiasm, unwilling to spend the necessary time and effort to learn the rituals, they plunge ahead with the enthusiasm and optimism of youth to harness the fire demon inside a rocket engine. Some of them discover the hard way that a little knowledge is a dangerous thing. They learn right quick that what they don't know *will* hurt them. Particularly if they're playing around with their own rocket engines.

A rocket engine, by nature, requires pressure for its operation—the higher the better. Although some rocket toys have been designed to operate solely on pressure, they are not as efficient nor as energetic as a rocket engine which has, in addition, combustion. The kids soon grow tired of the water rockets, the compressed air rockets, and the soda-pop rockets. So they attempt to harness the fire demon.

A rocket engine, again by its very nature, looks so simple. No moving parts. Just a tube filled with something that burns. A nozzle at one end, and a closure at the other. So the boys grab a handy length of lead pipe or a couple of carbon-dioxide capsules, fill them with match heads, and wonder "wha' hoppen" as the doctor picks shrapnel out of them.

And the newspaper reporters looking for copy just love them.

Unfortunately, because newspapers love to run this sort of thing, you very rarely ever hear of the successful amateur rocket work being carried on in this country. Believe me, there's plenty. And the amateurs *are* making contributions to the art of rocketry, regardless of what the professional rocketeers have to say about it.

The successful operations are being carried on by the teen-agers and adults who have had sense enough to learn a little ritual to start with. The pros like to point out that the design of a rocket engine is an extremely complex thing and not to be attempted by anyone without graduate-level college training. I have a sneaking suspicion that the attitude of the professional rocket people is very much similar to that of the old alchemists and magicians. The ritual isn't so very complex, but the results of invoking the fire demon can be disastrous if proper precautions are not taken.

(The analogy of rocketry = black magic is *not* a 1:1 ratio, but it happens to be a convenient analogy for my use here.)

The ritual and all the rest is not difficult to learn. There are several most excellent "Grimoirs" of rock-

Safety Code

As a member of THE NATIONAL ASSOCIATION OF ROCKETRY, I fully realize that model rockets can be dangerous if not handled and operated properly, and that the future of model rocketry depends upon my strict observance of the National Association of Rocketry Safety Code:

1. I will become familiar with the laws, rules, and regulations in my locale regarding the use and handling of rocket propellants and explosive material, and I will obey them.

2. I will never attempt to make my own rocket power plant without careful library research into the principles of rocket motors, chemicals and chemical reactions, handling of dangerous chemicals and explosive materials, and related subjects.

3. I will never attempt to make my own rocket power plants without first obtaining help, advice, and supervision from an adult person, science teacher, engineer, or scientist; and I will listen to and follow the advice and instructions given to me by those persons.

4. I will never attempt construction or operation of a liquid propellant rocket motor, nor will I work with toxic or dangerous liquid chemicals because of the extreme danger and complexity of liquid propellant rocket power plants.

5. I will always treat rocket motors and propellants with great respect and caution, remembering that many of them can be highly explosive under certain conditions.

6. I will never subject rocket motors or propellants to temperatures above 125° F., nor to physical shocks such as blows or dropping.

7. While working with rocket propellants or standing near operating rocket motors of my own making, I will always wear the proper protective garb, which shall include a shatter-proof face shield.

8. I will never use dangerous chemical compounds in the construction of rocket motors; this includes potassium chlorate, the picrate family, the fulminates, the iodate compounds, and dusts of certain metals such as magnesium. I will never use high explosives as rocket propellants.

9. I WILL NEVER USE BLASTING CAPS FOR ANY PURPOSE WHATSOEVER.

10. I will always use a remotely-operated electrical firing system to ignite rocket motors, this system to include the proper safety circuits; and I will not install electrical ignition devices in rocket motors until shortly before firing time.

11. In flight operations, I will always choose a large, clear area well away from houses, buildings, and other habitations, the size of this area to depend upon the performance expectations of my missile, which I shall compute by means of the laws of ballistics. I will not fly missiles in the vicinity of airports or in controlled air space.

12. I will never fly my model missile at any angle less than 60° from the horizontal, and will fly them vertically when possible.

13. I will take into account the fact that winds may affect the flight path of my missile, taking them into potentially unsafe areas. I will adjust my flight operations accordingly and will not fly missiles in windy weather.

14. My model missiles will never contain explosive warheads, and I will never fire model missiles against targets in the air or on the ground.

15. I will remember that my personal safety, as well as that of my friends and other people, depends upon my attitude and my actions. I will always act in a mature manner with safety uppermost in mind. I will never engage in any operation which may endanger myself or others.

National Association of Rocketry

"Missile away!" Cameras click and heads turn upward as the firing officer pushes the firing switch and sends another model rocket aloft from Hogback Rocket Range during the First National Model Rocket Championship. The safety and reliability of the models, which are powered by a commercial model rocket engine, have been so completely demonstrated, and the models are so small and light that no elaborate blockhouse or launching facilities are required. (Photo by author.)

etry, some of which I have listed at the end of this piece. Anyone who is capable of reading and understanding them can practice this arcane art. Anyone with a knowledge of high school algebra can carry out the necessary mathematical operations required—although he may end up with "rough cut" figures which are not exactly accurate in so far as the second-order parameters are concerned.

The only thing which is an absolute "must" is: YOU MUST FOLLOW THE RITUAL EXACTLY. This goes for the safety rules always, and for the other items until such time as you have had *mucho* experience in conventional design of engines utilizing conventional propellants whose characteristics are well known.

There is no getting around it: the development of a rocket propellant combination, either solid or liquid, is simply fraught with unbelievable dangers. Compounding of weird propellant mixtures can be deadly.

A lot of well-meaning people have published lists of "DON'TS" having to do with making a rocket engine. These lists are very good and quite accurate. The only problem is the simple fact that they tell you what not to do, but not what *to do*. The list of things to do if you want to kill yourself with a rocket—which is the way I like to put it—is a good one to know.

I switched the emphasis on this list from a negative "don't" pitch to a positive pitch for several reasons. After working with kids and their rockets for some two years now, I have learned two very important facts:

1. Rocket enthusiasts don't want to get hurt or have someone else get hurt.

2. Rocket enthusiasts do not want their experiments to fail disastrously.

Most rocketeers are beginning to understand now that rockets are not something that you can play with indiscriminately. They can be dangerous, and they know this. They're willing to follow the safety rules

Each model rocket fired at Hogback Rocket Range is tracked aloft by a pair of tracking stations such as this. Because the flights at Hogback Rocket Range are often for the purpose of establishing a new NAR record, two tracking telescopes at each station are used to provide a cross-check and redundant backup. Communications are maintained with the firing area by telephone. (Photo by author.)

If it were not for the hand, you couldn't tell this from the real thing! This scale model of the German V-2 rocket was carved from balsa wood. It uses the "Rock-A-Chute" model rocket motor and has a parachute recovery system. It has achieved altitudes of three hundred feet. (Photo by Jim Katzel.)

Grant R. Gray, 17, of Littleton, Colorado, displays the exquisite flying scale model of the Beech TDU-10 target drone which he has launched from under the wing of his radio-controlled model airplane and which took second place in the Scale Event at the First National Model Rocket Championships. Gray scaled the model from official plans supplied him by the Beech Aircraft Company. (Photo by author.)

when they learn what they are. They go to great lengths to seek out information which will help them. ("Dear Mr. Stine: I am building a rocket . . .")

I know it is quite true that harnessing the fire demon in the bottle which is a rocket motor can be dangerous. But so is harnessing the demon that lives in the high-voltage supply of a ham transmitter or in the 115-volt house circuits. Or the demons which ride in your lap as you drive a car. Or the demons of alchemy which perch on the lips of a test tube in a home chemistry lab. Or the nasty demons that lurk around power-driven machinery of the sort which do-it-yourself fiends have in their basements.

Every science, every technology, every gadget of our present culture is alive with dangerous demons. People still get electrocuted from AC-DC table radios every year. People still smash themselves to pieces in automobiles. Kids even get hit on the head with baseball bats. These accidents certainly have not caused us to exorcise the demons by outlawing said activities. Not at all. They have caused us, however, to be a bit more careful, to institute safety procedures, to educate the people concerned.

Rocketry is no different. It can be safe. It can be of great help in the proper education of our future scientists. It is a wonderful hobby. It is

Billowing smoke, a two-stage model thunders off the launching pad on a flight over 1,000 feet altitude at the NAR Hogback Rocket Range near Denver. The model utilized commercially-available model rocket engines and was recovered by parachute. (Photo by author.)

dangerous in certain aspects and perfectly harmless in others. Which is why I am in violent disagreement with the American Rocket Society's stand that "all launchings of amateur rockets must be prohibited by law." What nonsense! Where would rocketry be if it weren't for a bunch of wild-eyed amateur rocketeers who called themselves the American Interplanetary Society and shot rockets in the parks of Westchester County and on the beaches of Staten Island in the early 1930s? And do they hon-

Eyes aloft, rocket enthusiasts at the NAR Hogback Rocket Range near Denver, Colorado, watch a model rocket soar into the sky during the First National Model Rocket Championships held in July 1959. (Photo by author.)

estly believe that no future contribution can be made by amateur rocketeers? And where do they think the next generation of rocket engineers is coming from, anyway?

The portion of rocketry which is the most dangerous is the preparation, mixing, compounding, and loading of rocket propellants. Since a rocket propellant must pack the maximum amount of energy into the smallest amount of material, it is about five times as powerful as TNT

on the average. It may be highly sensitive to physical shocks, to heat, and to humidity. It may also be highly toxic and even deadly if you breathe the fumes. If it goes bang on you during the mixing and loading process, it hurts—to put it mildly.

The next most dangerous operation is the initial testing of the rocket engine. If you haven't done something properly or misplaced a decimal point, it is quite liable to go bang on you during test. BUT, once tested and once its reliability has been established through hundreds of static tests, it is no longer highly dangerous. It then becomes as safe as a shotgun shell or a rifle cartridge. (How many of you have ammunition stored in your house, huh?)

If commercially-available model rocket engines of the type sold in hobby stores are used, model rocketry at once becomes as safe as model aeronautics. There are many reasons for this. In the first place, any manufacturer who is worth his salt will not place a product of this type on the market until it has undergone extensive testing, until its reliability is assured, until it will work properly, and until he has set up the proper quality controls on his manufacturing process. In order to ship the motor and its propellant, he must have submitted samples to the Bureau of Explosives for testing to determine the hazards of shipments and handling. If he doesn't want to lose his shirt, he will have obtained product liability insurance on it, and the insurance boys will want to be completely assured of the safety and re liability.

Lastly, and most important, th manufacturer has accomplished fo the consumer or hobbyist all of th difficult and dangerous work—th design of the motor, the compound ing and mixing of the propellant, th loading of the motor, and the de velopment, production, and reliabilit testing.

The availability of commercia rocket engines for the hobbyist ha removed ninety-nine per cent of th danger from model rocketry. As fo proof of this statement, the Jete series of model rocket engines ha been on the commercial market fo some fourteen years and has estab lished an excellent record of safet and reliability. The Rock-A-Chut model rocket engines, made by Model Missiles, Inc., have been sold for tw years now; over five hundred thou sand of these little motors have bee sold without a single reported acci dent. A similar model rocket engin is being made by the Brown Manu facturing Company of Clinton, Mis souri. The Coaster Corporation in Texas is producing some very power ful model rocket units.

By relieving the kids of the prob lem of trying to harness the demon in the bottle by giving them hardware that works, they immediately discover that there is a great deal more to rocketry than stuffing a tube full of something that will burn. They discover the great part that aerodynamics plays in any rocket vehicle which is launched within the Earth's atmos-

phere. They begin to learn about structures and stabilization, fin design and fineness ratio, thrust-to-weight ratio and turbulence. They learn fire-control systems, launching devices, and flight safety. They begin to work with recovery systems to get their birds back in one piece. They get curious as to the altitude their models are achieving, so they work out tracking systems. They start to think about payloads and begin to build radio telemetry gadgets.

They suddenly discover that tremendous fields of interest open up to them, once they have the demon harnessed in the bottle for them.

This article was primarily designed to scare the hell out of anybody who wants to build a rocket engine without first learning the necessary elements of rocketry. It was also designed to show that rocketry can be safe if it is carried on properly. I should have included some horrifying photographs of rockets blowing up, kids with mangled hands, and the like. There is only one problem here: I haven't got any pictures like that. By carefully adhering to the ritual, by observing the safety rules, by reading and studying, and by seeing that everybody else did the same, I have never had the occasion to take such pictures.

But I do have some five hundred color slides of highly successful model rocket flights. Plus some five thousand feet of movie film. Plus some two hundred black-and-white pictures.

During the past two years, I have been on hand during some *fourteen thousand* model rocket flights, and I have yet to see anybody hurt at all. All but about two dozen of these flights used commercial rocket engines. The rest used home-brewed motors which had been thoroughly tested beforehand. We flew model rockets at fairs, at school science shows, in the parking lots of shopping centers, in football stadiums, at model airplane meets, at conventions, and at the First World Congress of Flight in Las Vegas, Nevada.

We kept the models small and light, so that there were very low energy requirements. We kept the models simple, so that very few things could ever go wrong. We tested unmercifully to make sure things would work. We followed the Safety Code of the National Association of Rocketry to the letter, and adhered to the NAR's rules right down the line.

I'm going to take time here and brag a little bit about the NAR, since I helped form it. Two years ago, it became obvious to a number of us "pro's" that what the kids needed was some straight-from-the-shoulder information and some direction. These "pro's" included Willy Ley, Bob Heinlein, Colonel Charles Parkin, Erik Bergaust, and myself. The NAR set up its Safety Code, which all members pledge to follow. It also developed a set of rules, standards, and regulations for the construction, design, and operation of model rockets. It enacted competition rules where members could compete fairly

against one another with a standardized framework. All the competition events sanctioned by NAR don't involve getting your model as high as possible, either. There are events for scale models, spot landing, and best design. There is a payload contest where a standardized payload of given size, shape, and weight must be carried.

Last July, we held our first annual championship meet. It was a howling success. One teen-ager, using commercial motors, got his model one thousand five hundred twenty feet in the air to set a new open altitude record. The model weighed four ounces at takeoff. We held twenty events and flew two hundred sixty-four flights. Not an accident in the bunch. The important thing, in my opinion, was the extreme sophistication of the models; they showed the results of lots of study and testing, and they weren't built by slap-dash, cut-and-try methods.

Furthermore, the contest was insured against liability by a domestic insurance firm. No claims, but we knew that would be the case.

We've more or less proved now that model rocketry can be safe if carried on properly. I'll never say that it can be safe if you're just messing around trying to harness that demon, however. Let somebody else harness it, and then you use it and you'll do all right. If you think there's nothing more to rocketry than propellant research and making your own engines, I can only feel sorry for you for missing out on the rest. And if you don't want to follow the safety rules, I won't even weep at your untimely demise.

As to whether or not model rocketry is worth while, this is a question that is somewhat difficult to answer. It is a lot of fun, and it is possible to learn a great deal from it. As an educational tool for the Space Age, it can't be beat, not as long as we continue to use rockets as astronautical motive power. As to the effects it has already had on hundreds of boys in their formative years, I won't be able to answer that or find out for another ten years. I do know that it has led three young men into engineering school, and that there are thousands of boys who know a little somethig about rocketry now that they didn't before.

I don't know how many kids still have their eyes and hands who wouldn't have had them if we hadn't gotten in there and pitched, giving them the word on what to do and what not to do and why.

I do not know this for certain. I've used magic as analogous to rocketry in this article for various reasons. There will be more people who understand more about rocketry than magic, no matter what occurs in the future.

The first man to walk the sands of Mars is now alive. He's in high school and fooling with rockets. If he heeds the warning about the demon in the bottle, he may be the one to make the trip after all. If not, he won't be the first young man to tangle unsuccessfully with a technological demon.

HOW TO COMMIT SUICIDE WITH A ROCKET

1. *Make your rocket out of metal.* When it blows up, it will scatter shrapnel all over the place, and some of it is bound to hit you. Be sure to use old CO_2 capsules; they make lovely hand grenades.

2. *Use a liquid propellant.* Think of all the fun you can have as the liquid splatters around, burning you! Think of breathing those toxic fumes. Think of all the money it's costing and what a beautiful explosion it's going to make when that valve fails to open.

3. *Use zinc and sulphur.* You can make a big rocket because this stuff is so poor as a propellant you'll have to use a lot of it. It also ignites very easy, which will make it simple for you to get a third-degree burn without any training whatsoever.

4. *Use a metallic dust.* Metallic dusts oxidize very rapidly and at the slightest provocation, and they make such a nice, bright flash. You can also breathe the dust and die quietly instead of in a blaze of glory.

5. *Use one of the chlorates as an oxidizer.* You want nothing but the most potent oxidizer for your dream bird, so to hell with the perchlorates. Besides, the chlorates make such sensitive mixtures when used with sulphur, organic materials, and certain hydrocarbons. Slight shock, slight rise in temperature, or slight friction sets them off beautifully.

6. *Don't worry about static electricity or sparks.*

7. *Subject your propellant to friction, grinding, and rough handling.* This is sure to make one beautiful bang.

8. *Ram your propellant into the motor* without testing its shock sensitivity first. This will make a large ventilation hole in the ceiling, if it stays there at all, and will take several of your fingers with it.

9. *Make it big and heavy.* After all, those little ones are just toys, aren't they, and you want to show how good a rocketeer you are by building something impressive. Remember, size is the only criterion of quality.

10. *Use a blasting cap as an igniter.* If it doesn't go off in your hands first, it will certainly blow your rocket to pieces. In either event, it gets you.

11. *Forget the local laws.* The jails are comfortable these days, and you can live off the other taxpayers for a while.

12. *Don't be afraid of a mis-fire.* Show it who's boss. Walk right up to it at once and fix it. After all, it didn't go when you lit it off, now did it?

13. *Mix great quantities of propellant at once.* Don't bother with safety rules; they're for weak sisters. Don't bother with protective clothing

or face shields; they just hamper your movements. Don't bother testing your propellant, but just load up your bird and light it off. More fun this way.

14. *Shoot it out of your backyard.* Better yet, up the chimney.

15. *Don't worry about impact.* If your rocket hits somebody or something, that's not your worry. Fly it and forget it. Parachute systems are too much trouble.

16. *Don't ask for help.* After all, Goddard didn't ask for help, either. Neither did the rocket pioneers, and look where they are today. If they can do it, so can you. The books never give the right information anyway, and the books are down at the library, which is too far to go.

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THE END

ANYBODY GOT AN EXPLANATION?

There's something funny going on that I don't seem to be able to understand. This business of banning nuclear weapons tests; somehow the discussions don't seem to make much sense in terms of what they say they're trying to do.

If the reason for the ban on tests is the danger of increased fallout and contamination of the atmosphere,

And the major problem is that they can't find a sure way to detect secret underground nuclear explosions,

Then . . . why worry about underground tests?

If fear of fallout is the true reason for wanting the ban—let's apply the accepted motto of Science that "if you can't detect a phenomenon, then for you it doesn't exist."

Let's be practical and get something useful accomplished, huh? Banning nuclear tests that throw detectable deadly contaminants on the rest of the world makes sense; if somebody figures out a noiseless, nontoxic, nonradiating nuclear bomb that doesn't generate detectable shockwaves—why try to ban it?

And why hold up the very useful idea of banning the world-poisoning tests while we figure out how to unscrew the unscrutable, and detect the undetectable?

(*Continued from page* 82)
sage from somewhere across the galaxy. Outside the rushing transcribers copied, coded and filed messages, but no sound penetrated the insulated wall. I waited until his attention clicked back into the room, and handed him the sheets of paper.

"League Central 14—rush," I told him.

He raised his eyebrows, but didn't ask any questions. Establishing contact only took a few seconds, as they had an entire battery of psimen for their communications. He read the code words carefully, shaping them with his mouth but not speaking aloud, the power of his thoughts carrying across the light-years of distance. As soon as he was finished I took back the sheet, tore it up and pocketed the pieces.

I had my answer back quickly enough, Inskipp must have been hovering around waiting for my message. The mike was turned off to the transcribers outside, and I took the code groups down in shorthand myself.

". . . xybb dfil fdno, and if you don't—don't come back!"

The message broke into clear at the end and the psiman smiled as he spoke the words. I broke the point off my stylus and growled at him not to repeat *any* of this message, as it was classified, and I would personally see him shot if he did. That got rid of the smile, but didn't make me feel any better.

The decoded message turned out not to be as bad as I had imagined. Until further notice I was in charge of tracking and capturing the stolen battleship. I could call on the League for any aid I needed. I would keep my identity as an admiral for the rest of the job. I was to keep him informed of progress. Only those ominous last words in clear kept my happiness from being complete.

I had been handed my long-awaited assignment. But translated into simple terms my orders were to get the battleship, or it would be my neck. Never a word about my efforts in uncovering the plot in the first place. This is a heartless world we live in.

This moment of self-pity relaxed me and I immediately went to bed. Since my main job now was waiting, I could wait just as well asleep.

And waiting was all I could do. Of course there were secondary tasks, such as ordering a Naval cruiser for my own use, and digging for more information on the thieves, but these really were secondary to my main purpose. Which was waiting for bad news. There was no pace I could go that would be better situated for the chase than Cittanuvo. The missing ship could have gone in any direction. With each passing minute the sphere of probable locations grew larger by the power of the squared cube. I kept the on-watch crew of the cruiser at duty stations and confined the rest within a one hundred yard radius of the ship.

There was little more information on Pepe and Angelina, they had

covered their tracks well. Their origin was unknown, though the fact they both talked with a slight accent suggested an off-world origin. There was one dim picture of Pepe, chubby but looking too grim to be a happy fat boy. There was no picture of the girl. I shuffled the meager findings, controlled my impatience, and kept the ship's psiman busy pulling in all the reports of any kind of trouble in space. The navigator and I plotted their locations in his tank, comparing the positions in relation to the growing sphere that enclosed all the possible locations of the stolen ship. Some of the disasters and apparent accidents hit inside this area, but further investigation proved them all to have natural causes.

I had left standing orders that all reports falling inside the danger area were to be brought to me at any time. The messenger woke me from a deep sleep, turning on the light and handing me the slip of paper. I blinked myself awake, read the first two lines, and pressed the *action station* alarm over my bunk. I'll say this, the Navy boys know their business. When the sirens screamed, the crew secured ship and blasted off before I had finished reading the report. As soon as my eyeballs unsquashed back into focus I read it through, then once more, carefully, from the beginning.

It looked like the one we had been waiting for. There were no witnesses to the tragedy, but a number of monitor stations had picked up the discharge static of a large energy weapon being fired. Triangulation had lead investigators to the spot where they found a freighter, *Ogget's Dream,* with a hole punched through it as big as a railroad tunnel. The freighter's cargo of plutonium was gone.

I read *Pepe* in every line of the message. Since he was flying an undermanned battleship, he had used it in the most efficient way possible. If he attempted to negotiate or threaten another ship, the element of chance would be introduced. So he had simply roared up to the unsuspecting freighter and blasted her with the monster guns his battleship packed. All eighteen men aboard had been killed instantly. The thieves were now murderers.

I was under pressure now to act. And under a greater pressure not to make any mistakes. Roly-poly Pepe had shown himself to be a ruthless killer. He knew what he wanted—then reached out and took it. Destroying anyone who stood in his way. More people would die before this was over, it was up to me to keep that number as small as possible.

Ideally I should have rushed out the fleet with guns blazing and dragged him to justice. Very nice, and I wished it could be done that way. Except where was he? A battleship may be gigantic on some terms of reference, but in the immensity of the galaxy it is microscopically infinitesimal. As long as it stayed out of the regular lanes of commerce, and clear of detector stations and planets, it would never be found.

Then how *could* I find it—and

having found it, catch it? When the infernal thing was more than a match for any ship it might meet. That was my problem. It had kept me awake nights and talking to myself days, since there was no easy answer.

I had to construct a solution, slowly and carefully. Since I couldn't be sure where Pepe was going to be next, I had to make him go where I wanted him to.

There were some things in my favor. The most important was the fact I had forced him to make his play before he was absolutely ready. It wasn't chance that he had left the same day I arrived on Cittanuvo. Any plan as elaborate as his certainly included warning of approaching danger. The drive on the battleship, as well as controls and primary armament had been installed weeks before I showed up. Much of the subsidiary work remained to be done when the ship had left. One witness of the theft had graphically described the power lines and cables dangling from the ship's locks when she lifted.

My arrival had forced Pepe off balance. Now I had to keep pushing until he fell. This meant I had to think as he did, fall into his plan, think ahead—then trap him. Set a thief to catch a thief. A great theory, only I felt uncomfortably on the spot when I tried to put it into practice.

A drink helped, as did a cigar. Puffing on it, staring at the smooth bulkhead, relaxed me a bit. After all —there aren't that many things you

can do with a battleship. You can't run a big con, blow safes or make burmedex with it. It is hell-on-jets for space piracy, but that's about all.

"Great, great—but why a battleship?"

I was talking to myself, normally a bad sign, but right now I didn't care. The mood of space piracy had seized me and I had been going along fine. Until this glaring inconsistency jumped out and hit me square in the eye.

Why a battleship? Why all the trouble and years of work to get a ship that two people could just barely manage? With a tenth of the effort Pepe could have had a cruiser that would have suited his purposes just as well.

Just as good for space piracy, that is—but not for *his* purposes. He had wanted a battleship, and he had gotten himself a battleship. Which meant he had more in mind than simple piracy. What? It was obvious that Pepe was a monomaniac, an egomaniac, and as psychotic as a shorted computer. Some day the mystery of how he had slipped through the screen of official testing would have to be investigated. That wasn't my concern now. He still had to be caught.

A plan was beginning to take shape in my head, but I didn't rush it. First I had to be sure that I knew him well. Any man that can con an entire world into building a battleship for him—then steal it from them—is not going to stop there. The ship would need a crew, a base for refueling and a mission.

Fuel had been taken care of first, the gutted hull of *Ogget's Dream* was silent witness to that. There were countless planets that could be used as a base. Getting a crew would be more difficult in these peaceful times, although I could think of a few answers to that one, too. Raid the mental hospitals and jails. Do that often enough and you would have a crew that would make any pirate chief proud. Though piracy was, of course, too mean an ambition to ascribe to this boy. Did he want to rule a whole planet—or maybe an entire system? Or more? I shuddered a bit as the thought hit me. Was there really anything that could stop a plan like this once it got rolling? During the Kingly Wars any number of types with a couple of ships and less brains than Pepe had set up just this kind of empire. They were all pulled down in the end, since their success depended on one-man rule. But the price that had to be paid first!

This was the plan and I felt in my bones that I was right. I might be wrong on some of the minor details, they weren't important. I knew the general outline of the idea, just as when I bumped into a mark I knew how much he could be taken for, and just how to do it. There are natural laws in crime as in every other field of human endeavor. I *knew* this was it.

"Get the Communications Officer in here at once," I shouted at the intercom. "Also a couple of clerks

with transcribers. And fast—this is a matter of life or death!" This last had a hollow ring, and I realized my enthusiasm had carried me out of character. I buttoned my collar, straightened my ribbons and squared my shoulders. By the time they knocked on the door I was all admiral again.

Acting on my orders the ship dropped out of warpdrive so our psiman could get through to the other operators. Captain Steng grumbled as we floated there with the engines silent, wasting precious days, while half his crew was involved in getting out what appeared to be insane instructions. My plan was beyond his understanding. Which is, of course, why he is a captain and I'm an admiral, even a temporary one.

Following my orders, the navigator again constructed a sphere of speculation in his tank. The surface of the sphere contacted all the star systems a day's flight ahead of the maximum flight of the stolen battleship. There weren't too many of these at first and the psiman could handle them all, calling each in turn and sending by news releases to the Naval Public Relations officers there. As the sphere kept growing he started to drop behind, steadily losing ground. By this time I had a general release prepared, along with directions for use and follow up, which he sent to Central 14. The battery of psimen there contacted the individual planets and all we had to do was keep adding to the list of planets.

The release and follow-ups all harped on one theme. I expanded on it, waxed enthusiastic, condemned it, and worked it into an interview. I wrote as many variations as I could, so it could be slipped into as many different formats as possible. In one form or another I wanted the basic information in every magazine, newspaper and journal inside that expanding sphere.

"What in the devil does this nonsense *mean?*" Captain Steng asked peevishly. He had long since given up the entire operation as a futile one, and spent most of the time in his cabin worrying about the affect of it on his service record. Boredom or curiosity had driven him out, and he was reading one of my releases with horror.

"Billionaire to found own world . . . space yacht filled with luxuries to last a hundred years," the captain's face grew red as he flipped through the stack of notes. "What connection does this tripe have with catching those murderers?"

When we were alone he was anything but courteous to me, having assured himself by not-too-subtle questioning that I was a spurious admiral. There was no doubt I was still in charge, but our relationship was anything but formal.

"This tripe and nonsense," I told him, "is the bait that will snag our fish. A trap for Pepe and his partner in crime."

"Who is this mysterious billionaire?"

"Me," I said. "I've always wanted to be rich."

"But this ship, the space yacht, where is it?"

"Being built now in the naval shipyard at Udrydde. We're almost ready to go there now, soon as this batch of instructions goes out."

Captain Steng dropped the releases onto the table, then carefully wiped his hands off to remove any possible infection. He was trying to be fair and considerate of my views, and not succeeding in the slightest.

"It doesn't make sense," he growled. "How can you be sure this killer will ever read one of these things. And if he does—why should he be interested? It looks to me as if you are wasting time while he slips through your fingers. The alarm should be out and every ship notified. The Navy alerted and patrols set on all spacelanes—"

"Which he could easily avoid by going around, or better yet not even bother about, since he can lick any ship we have. That's not the answer," I told him. "This Pepe is smart and as tricky as a fixed gambling machine. That's his strength—and his weakness as well. Characters like that never think it possible for someone else to outthink them. Which is what *I'm* going to do."

"Modest, aren't you," Steng said.

"I try not to be," I told him. "False modesty is the refuge of the incompetent. I'm going to catch this thug and I'll tell you how I'll do it. He's going to hit again soon, and wherever he hits there will be some kind of a periodical with my plant in it. Whatever else he is after, he is going to take all of the magazines and papers he can find. Partly to satisfy his own ego, but mostly to keep track of the things he is interested in. Such as ship sailings."

"You're just guessing—you don't know all this."

His automatic assumption of my incompetence was beginning to get me annoyed. I bridled my temper and tried one last time.

"Yes, I'm guessing—an informed guess—but I do know some facts as well. *Ogget's Dream* was cleaned out of all reading matter, that was one of the first things I checked. We can't stop the battleship from attacking again, but we can see to it that the time after that she sails into a trap."

"I don't know," the captain said, "it sounds to me like . . ."

I never heard what it sounded like, which is all right since he was getting under my skin and might have been tempted to pull my pseudo-rank. The alarm sirens cut his sentence off and we foot-raced to the communications room.

Captain Steng won by a nose, it was his ship and he knew all the shortcuts. The psiman was holding out a transcription, but he summed it up in one sentence. He looked at me while he talked and his face was hard and cold.

"They hit again, knocked out a Navy supply satellite, thirty-four men dead.

"If your plan doesn't work, *ad-*

miral," the captain whispered hoarsely in my ear, "I'll personally see that you're flayed alive!"

"If my plan doesn't work, *captain* —there won't be enough of my skin left to pick up with a tweezer. Now if you please, I'd like to get to Udrydde and pick up my ship as soon as possible."

The easy-going hatred and contempt of all my associates had annoyed me, thrown me off balance. I was thinking with anger now, not with logic. Forcing a bit of control, I ordered my thoughts, checking off a mental list.

"Belay that last command," I shouted, getting back into my old space-dog mood. "Get a call through first and find out if any of our plants were picked up during the raid."

While the psiman unfocused his eyes and mumbled under his breath I riffled some papers, relaxed and cool. The ratings and officers waited tensely, and made some slight attempt to conceal their hatred of me. It took about ten minutes to get an answer.

"Affirmative," the psiman said. "A store ship docked there twenty hours before the attack. Among other things, it left newspapers containing the article."

"Very good," I said calmly. "Send a general order to suspend all future activity with the planted releases. Send it by psimen only, no mention on any other Naval signaling equipment, there's a good chance now it might be "overheard."

I strolled out slowly, in command of the situation. Keeping my face turned away so they couldn't see the cold sweat.

It was a fast run to Udrydde where my billionaire's yacht, the *Eldorado,* was waiting. The dockyard commander showed me the ship, and made a noble effort to control his curiosity. I took a sadistic revenge on the Navy by not telling him a word about my mission. After checking out the controls and special apparatus with the technicians, I cleared the ship. There was a tape in the automatic navigator that would put me on the course mentioned in all the articles, just a press of a button and I would be on my way. I pressed the button.

It was a beautiful ship, and the dockyard had been lavish with their attention to detail. From bow to rear tubes she was plated in pure gold. There are other metals with a higher albedo, but none that give a richer effect. All the fittings, inside and out, were either machine-turned or plated. All this work could not have been done in the time allotted, the Navy must have adapted a luxury yacht to my needs.

Everything was ready. Either Pepe would make his move—or I would sail on to my billionaire's paradise planet. If that happened, it would be best if I stayed there.

Now that I was in space, past the point of no return, all the doubts that I had dismissed fought for attention. The plan that had seemed so clear and logical now began to look

like a patched and crazy makeshift.

"Hold on there, sailor," I said to myself. Using my best admiral's voice. "Nothing has changed. It's still the best and *only* plan possible under the circumstances."

Was it? Could I be sure that Pepe, flying his mountain of a ship and eating Navy rations, would be interested in some of the comforts and luxuries of life? Or if the luxuries didn't catch his eye, would he be interested in the planetary homesteading gear? I had loaded the cards with all the things he might want, and planted the information where he could get it. He had the bait now —but would he grab the hook?

I couldn't tell. And I could work myself into a neurotic state if I kept running through the worry cycle. It took an effort to concentrate on anything else, but it had to be made. The next four days passed very slowly.

When the alarm blew off, all I felt was an intense sensation of relief. I might be dead and blasted to dust in the next few minutes, but that didn't seem to make much difference.

Pepe had swallowed the bait. There was only one ship in the galaxy that could knock back a blip that big at such a distance. It was closing fast, using the raw energy of the battleship engines for a headlong approach. My ship bucked a bit as the tug-beams locked on at maximum distance. The radio bleeped at me for attention at the same time. I waited as long as I dared, then flipped it on. The voice boomed out.

". . . That you are under the guns of a warship! Don't attempt to run, signal, take evasive action, or in any other way . . ."

"Who are you—and what the devil do you want?" I spluttered into the mike. I had my scanner on, so they could see me, but my own screen stayed dark. They weren't sending any picture. In a way it made my act easier, I just played to an unseen audience. They could see the rich cut of my clothes, the luxurious cabin behind me. Of course they couldn't see my hands.

"It doesn't matter who we are," the radio boomed again. "Just obey orders if you care to live. Stay away from the controls until we have tied on, then do exactly as I say."

There were two distant clangs as magnetic grapples hit the hull. A little later the ship lurched, drawn home against the battleship. I let my eyes roll in fear, looking around for a way to escape—and taking a peek at the outside scanners. The yacht was flush against the space-filling bulk of the other ship. I pressed the button that sent the torch-wielding robot on his way.

"Now let me tell you something," I snapped into the mike, wiping away the worried billionaire expression. "First I'll repeat your own warning —obey orders if you want to live. I'll show you why—"

When I threw the big switch a carefully worked out sequence took place. First, of course, the hull was magnetized and the bombs fused. A light blinked as the scanner in the

cabin turned off, and the one in the generator room came on. I checked the monitor screen to make sure, then started into the spacesuit. It had to be done fast, at the same time it was necessary to talk naturally. They must still think of me as sitting in the control room.

"That's the ship's generators you're looking at," I said. "Ninety-eight per cent of their output is now feeding into coils that make an electromagnet of this ship's hull. You will find it very hard to separate us. And I would advise you not to try."

The suit was on, and I kept the running chatter up through the mike in the helmet, relaying to the ship's transmitter. The scene in the monitor receiver changed.

"You are now looking at a hydrogen bomb that is primed and aware of the magnetic field holding our ships together. It will, of course, go off if you try to pull away."

I grabbed up the monitor receiver and ran towards the air lock.

"This is a different bomb now," I said, keeping one eye on the screen and the other on the slowly opening outer door. "This one has receptors on the hull. Attempt to destroy any part of this ship, or even gain entry to it, and this one will detonate."

I was in space now, leaping across to the gigantic wall of the other ship.

"What do you want?" These were the first words Pepe had spoken since his first threats.

"I want to talk to you, arrange a deal. Something that would be profitable for both of us. But let me first show you the rest of the bombs, so you won't get any strange ideas about co-operating."

Of course I *had* to show him the rest of the bombs, there was no getting out of it. The scanners in the ship were following a planned program. I made light talk about all my massive armament that would carry us both to perdition, while I climbed through the hole in the battleship's hull. There was no armor or warning devices at this spot, it had been chosen carefully from the bueprints.

"Yeah, yeah . . . I take your word for it, you're a flying bomb. So stop with this roving reporter bit and tell me what you have in mind."

This time I didn't answer him, because I was running and panting like a dog, and had the mike turned off. Just ahead, if the blueprints were right, was the door to the control room. Pepe should be there.

I stepped through, gun out, and pointed it at the back of his head. Angelina stood next to him, looking at the screen.

"The game's over," I said. "Stand up slowly and keep your hands in sight."

"What do you mean," he said angrily, looking at the screen in front of him. The girl caught wise first. She spun around and pointed. "He's *here!*"

They both stared, gaped at me, caught off guard and completely unprepared.

"You're under arrest, crime-king," I told him. "And your girl friend."

Angelina rolled her eyes up and slid slowly to the floor. Real or faked, I didn't care. I kept the gun on Pepe's pudgy form while he picked her up and carried her to an acceleration couch against the wall.

"What . . . what will happen now?" He quavered the question. His pouchy jaws shook and I swear there were tears in his eyes. I was not impressed by his acting since I could clearly remember the dead men floating in space. He stumbled over to a chair, half dropping into it.

"Will they do anything to me?" Angelina asked. Her eyes were open now.

"I have no idea of what will happen to you," I told her truthfully. "That is up to the courts to decide."

"But he *made* me do all those things," she wailed. She was young, dark and beautiful, the tears did nothing to spoil this.

Pepe dropped his face into his hands and his shoulders shook. I flicked the gun his way and snapped at him.

"Sit up, Pepe. I find it very hard to believe that you are crying. There are some Naval ships on the way now, the automatic alarm was triggered about a minute ago. I'm sure they'll be glad to see the man who . . ."

"Don't let them take me, please!" Angelina was on her feet now, her back pressed to the wall. "They'll put me in prison, do things to my mind!" She shrunk away as she spoke, stumbling along the wall. I looked back at Pepe, not wanting to have my eyes off him for an instant.

"There's nothing I can do," I told her. I glanced her way and a small door was swinging open and she was gone.

"Don't try to run," I shouted after her, "it can't do any good!"

Pepe made a strangling noise and I looked back to him quickly. He was sitting up now and his face was dry of tears. In fact he was laughing, not crying.

"So she caught you, too, Mr. Wise--cop, poor little Angelina with the soft eyes." He broke down again, shaking with laughter.

"What do you mean," I growled.

"Don't you catch yet? The story she told you was true—except she twisted it around a bit. The whole plan, building the battleship, then stealing it, was *hers*. She pulled me into it, played me like an accordion. I fell in love with her, hating myself and happy at the same time. Well—I'm glad now it's over. At least I gave her a chance to get away, I owe her that much. Though I thought I would explode when she went into that innocence act!"

The cold feeling was now a ball of ice that threatened to paralyze me. "You're lying" I said hoarsely, and even I didn't believe it.

"Sorry. That's the way it is. Your brain-boys will pick my skull to pieces and find out the truth anyway. There's no point in lying now."

"We'll search the ship, she can't hide for long."

"She won't have to," Pepe said. "There's a fast scout we picked up, stowed in one of the holds. That must be it leaving now." We could feel the vibration, distantly through the floor.

"The Navy will get her," I told him, with far more conviction than I felt.

"Maybe," he said, suddenly slumped and tired, no longer laughing. "Maybe they will. But I gave her her chance. It is all over for me now, but she knows that I loved her to the end." He bared his teeth in sudden pain. "Not that she will care in the slightest."

I kept the gun on him and neither of us moved while the Navy ships pulled up and their boots stamped outside. I had captured my battleship and the raids were over. And I couldn't be blamed if the girl had slipped away. If she evaded the Navy ships, that was their fault, not mine.

I had my victory all right.

Then why did it taste like ashes in my mouth?

It's a big galaxy, but it wasn't going to be big enough to hide Angelina now. I can be conned once —but only once. The next time we met things were going to be *very* different.

THE END

What is desirable is not always necessary, while that which is necessary may be most undesirable. Perhaps the measure of a man is the ability to tell one from the other . . . and act on it.

THE MEASURE

ALFRED PENDRAY pushed himself along the corridor of the battleship *Shane*, holding the flashlight in one hand and using the other hand and his good leg to guide and propel himself by. The beam of the torch reflected queerly from the pastel green walls of the corridor, giving him the uneasy sensation that he was swimming underwater instead of moving through the blasted hulk of a battleship, a thousand light-years from home.

He came to the turn in the corridor, and tried to move to the right, but his momentum was greater than he had thought, and he had to grab the corner of the wall to keep from going on by. That swung him around, and his sprained ankle slammed agonizingly against the other side of the passageway.

Pendray clenched his teeth and kept going. But as he moved down the side passage, he went more slowly, so that the friction of his palm against the wall could be used as a brake.

OF A MAN

By RANDALL GARRETT

Illustrated by Martinez

He wasn't used to maneuvering without gravity; he'd been taught it in Cadets, of course, but that was years ago and parsecs away. When the pseudograv generators had gone out, he'd retched all over the place, but now his stomach was empty, and the nausea had gone.

He had automatically oriented himself in the corridors so that the doors of the various compartments were to his left and right, with the ceiling "above" and the deck "below." Otherwise, he might have lost his sense of direction completely in

the complex maze of the interstellar battleship.

Or, he corrected himself, *what's left of a battleship.*

And what *was* left? Just Al Pendray and less than half of the once-mighty *Shane.*

The door to the lifeboat hold loomed ahead in the beam of the flashlight, and Pendray braked himself to a stop. He just looked at the dogged port for a few seconds.

Let there be a boat in there, he thought. *Just a boat, that's all I ask. And air,* he added as an afterthought. Then his hand went out to the dog handle and turned.

The door cracked easily. There was air on the other side. Pendray breathed a sigh of relief, braced his good foot against the wall, and pulled the door open.

The little lifeboat was there, nestled tightly in her cradle. For the first time since the *Shane* had been hit, Pendray's face broke into a broad smile. The fear that had been within him faded a little, and the darkness of the crippled ship seemed to be lessened.

Then the beam of his torch caught the little red tag on the air lock of the lifeboat. *Repair Work Under Way—Do Not Remove This Tag Without Proper Authority.*

That explained why the lifeboat hadn't been used by the other crewmen.

Pendray's mind was numb as he opened the air lock of the small craft. He didn't even attempt to think. All he wanted was to see exactly how the vessel had been disabled by the repair crew. He went inside.

The lights were working in the lifeboat. That showed that its power was still functioning. He glanced over the instrument-and-control panels. No red tags on them, at least. Just to make sure, he opened them up, one by one, and looked inside. Nothing wrong, apparently.

Maybe it had just been some minor repair—a broken lighting switch or something. But he didn't dare hope yet.

He went through the door in the tiny cabin that led to the engine compartment, and he saw what the trouble was.

The shielding had been removed from the atomic motors.

He just hung there in the air, not moving. His lean, dark face remained expressionless, but tears welled up in his eyes and spilled over, spreading their dampness over his lids.

The motors would run, all right. The ship could take him to Earth. But the radiation leakage from those motors would kill him long before he made it home. It would take ten days to make it back to base, and twenty-four hours of exposure to the deadly radiation from those engines would be enough to insure his death from radiation sickness.

His eyes were blurring from the film of tears that covered them; without gravity to move the liquid, it just pooled there, distorting his vision. He blinked the tears away, then

wiped his face with his free hand.

Now what?

He was the only man left alive on the *Shane,* and none of the lifeboats had escaped. The Rat cruisers had seen to that.

They weren't really rats, those people. Not literally. They looked humanoid enough to enable plastic surgeons to disguise a human being as one of them, although it meant sacrificing the little fingers and little toes to imitate the four-digited Rats. The Rats were at a disadvantage there; they couldn't add any fingers. But the Rats had other advantages —they bred and fought like, well, like rats.

Not that human beings couldn't equal them or even surpass them in ferocity, if necessary. But the Rats had nearly a thousand years of progress over Earth. Their Industrial Revolution had occurred while the Angles and the Saxons and the Jutes were pushing the Britons into Wales. They had put their first artificial satellites into orbit while King Alfred the Great was fighting off the Danes.

They hadn't developed as rapidly as Man had. It took them roughly twice as long to go from one step to the next, so that their actual superiority was only a matter of five hundred years, and Man was catching up rapidly. Unfortunately, Man hadn't caught up yet.

The first meeting of the two races had taken place in interstellar space, and had seemed friendly enough. Two ships had come within detector distance of each other, and had circled warily. It was almost a perfect example of the Leinster Hypothesis; neither knew where the other's home world was located, and neither could go back home for fear that the other would be able to follow. But the Leinster Hypothesis couldn't be followed to the end. Leinster's solution had been to have the parties trade ships and go home, but that only works when the two civilizations are fairly close in technological development. The Rats certainly weren't going to trade their ship for the inferior craft of the Earthmen.

The Rats, conscious of their superiority, had a simpler solution. They were certain, after a while, that Earth posed no threat to them, so they invited the Earth ship to follow them home.

The Earthmen had been taken on a carefully conducted tour of the Rats' home planet, and the captain of the Earth ship—who had gone down in history as "Sucker" Johnston—was convinced that the Rats meant no harm, and agreed to lead a Rat ship back to Earth. If the Rats had struck then, there would never have been a Rat-Human War. It would have been over before it started.

But the Rats were too proud of their superiority. Earth was too far away to bother them for the moment; it wasn't in their line of conquest just yet. In another fifty years, the planet would be ready for picking off.

Earth had no idea that the Rats

were so widespread. They had taken and colonized over thirty planets, completely destroying the indigenous intelligent races that had existed on five of them.

It wasn't just pride that had made the Rats decide to wait before hitting Earth; there was a certain amount of prudence, too. None of the other races they had met had developed space travel; the Earthmen might be a little tougher to beat. Not that there was any doubt of the outcome, as far as they were concerned—but why take chances?

But, while the Rats had fooled "Sucker" Johnston and some of his officers, the majority of the crew knew better. Rat crewmen were little short of slaves, and the Rats made the mistake of assuming that the Earth crewmen were the same. They hadn't tried to impress the crewmen as they had the officers. When the interrogation officers on Earth questioned the crew of the Earth ship, they, too, became suspicious. Johnston's optimistic attitude just didn't jibe with the facts.

So, while the Rat officers were having the red carpet rolled out for them, Earth Intelligence went to work. Several presumably awe-stricken men were allowed to take a conducted tour of the Rat ship. After all, why not? The Twentieth Century Russians probably wouldn't have minded showing their rocket plants to an American of Captain John Smith's time, either.

But there's a difference. Earth's government knew Earth was being threatened, and they knew they had to get as many facts as they could. They were also aware of the fact that if you know a thing *can* be done, then you will eventually find a way to do it.

During the next fifty years, Earth learned more than it had during the previous hundred. The race expanded, secretly, moving out to other planets in that sector of the galaxy. And they worked to catch up with the Rats.

They didn't make it, of course. When, after fifty years of presumably peaceful—but highly limited—contact, the Rats hit Earth, they found out one thing. That the mass and energy of a planet armed with the proper weapons can not be outclassed by any conceivable concentration of spaceships.

Throwing rocks at an army armed with machine guns may seem futile, but if you hit them with an avalanche, they'll go under. The Rats lost three-quarters of their fleet to planet-based guns and had to go home to bandage their wounds.

The only trouble was that Earth couldn't counterattack. Their ships were still outclassed by those of the Rats. And the Rats, their racial pride badly stung, were determined to wipe out Man, to erase the stain on their honor wherever Man could be found. Somehow, some way, they must destroy Earth.

And now, Al Pendray thought bitterly, they would do it.

The *Shane* had sneaked in past

Rat patrols to pick up a spy on one of the outlying Rat planets, a man who'd spent five years playing the part of a Rat slave, trying to get information on their activities there. And he had had one vital bit of knowledge. He'd found it and held on to it for over three years, until the time came for the rendezvous.

The rendezvous had almost come too late. The Rats had developed a device that could make a star temporarily unstable, and they were ready to use it on Sol.

The *Shane* had managed to get off-planet with the spy, but they'd been spotted in spite of the detector nullifiers that Earth had developed. They'd been jumped by Rat cruisers and blasted by the superior Rat weapons. The lifeboats had been picked out of space, one by one, as the crew tried to get away.

In a way, Alfred Pendray was lucky. He'd been in the sick bay with a sprained ankle when the Rats hit, sitting in the X-ray room. The shot that had knocked out the port engine had knocked him unconscious, but the shielded walls of the X-ray room had saved him from the blast of radiation that had cut down the crew in the rear of the ship. He'd come to in time to see the Rat cruisers cut up the lifeboats before they could get well away from the ship. They'd taken a couple of parting shots at the dead hulk, and then left it to drift in space—and leaving one man alive.

In the small section near the rear of the ship, there were still compartments that were airtight. At least, Pendray decided, there was enough air to keep him alive for a while. If only he could get a little power into the ship, he could get the rear air purifiers to working.

He left the lifeboat and closed the door behind him. There was no point in worrying about a boat he couldn't use.

He made his way back toward the engine room. Maybe there was something salvageable there. Swimming through the corridors was becoming easier with practice; his Cadet training was coming back to him.

Then he got a shock that almost made him faint. The beam of his light had fallen full on the face of a Rat. It took him several seconds to realize that the Rat was dead, and several more to realize that it wasn't a Rat at all. It was the spy they had been sent to pick up. He'd been in the sick bay for treatments of the ulcers on his back gained from five years of frequent lashings as a Rat slave.

Pendray went closer and looked him over. He was still wearing the clothing he'd had on when the *Shane* picked him up.

Poor guy, Pendray thought. *All that hell— for nothing.*

Then he went around the corpse and continued toward the engine room.

The place was still hot, but it was thermal heat, not radioactivity. A dead atomic engine doesn't leave any residual effects.

Five out of the six engines were

utterly ruined, but the sixth seemed to be in working condition. Even the shielding was intact. Again, hope rose in Alfred Pendray's mind. If only there were tools!

A half hour's search killed that idea. There were no tools aboard capable of cutting through the hard shielding. He couldn't use it to shield the engine on the lifeboat. And the shielding that been on the other five engines had melted and run; it was worthless.

Then another idea hit him. Would the remaining engine work at all? Could it be fixed? It was the only hope he had left.

Apparently, the only thing wrong with it was the exciter circuit leads, which had been sheared off by a bit of flying metal. The engine had simply stopped instead of exploding. That ought to be fixable. He could try; it was something to do, anyway.

It took him the better part of two days, according to his watch. There were plenty of smaller tools around for the job, although many of them were scattered and some had been ruined by the explosions. Replacement parts were harder to find, but he managed to pirate some of them from the ruined engines.

He ate and slept as he felt the need. There was plenty of food in the sick bay kitchen, and there is no need for a bed under gravity-less conditions.

After the engine was repaired, he set about getting the rest of the ship ready to move—if it *would* move. The hull was still solid, so the infraspace field should function. The air purifiers had to be reconnected and repaired in a couple of places. The lights ditto. The biggest job was checking all the broken leads to make sure there weren't any short circuits anywhere.

The pseudogravity circuits were hopeless. He'd have to do without gravity.

On the third day, he decided he'd better clean the place up. There were several corpses floating around, and they were beginning to be noticeable. He had to tow them, one by one, to the rear starboard air lock and seal them between the inner and outer doors. He couldn't dump them, since the outer door was partially melted and welded shut.

He took the personal effects from the men. If he ever got back to Earth, their next-of-kin might want the stuff. On the body of the imitation Rat, he found a belt-pouch full of microfilm. The report on the Rats' new weapon? Possibly. He'd have to look it over later.

On the "morning" of the fourth day, he started the single remaining engine. The infraspace field came on, and the ship began moving at multiples of the speed of light. Pendray grinned. *Half gone, will travel,* he thought gleefully.

If Pendray had had any liquor aboard, he would have gotten mildly drunk. Instead, he sat down and read the spools of microfilm, using the projector in the sick bay.

He was not a scientist in the strict

sense of the word. He was a navigator and a fairly good engineer. So it didn't surprise him any that he couldn't understand a lot of the report. The mechanics of making a semi-nova out of a normal star were more than a little bit over his head. He'd read a little and then go out and take a look at the stars, checking their movement so that he could make an estimate of his speed. He'd jury-rigged a kind of control on the hull field, so he could aim the hulk easily enough. He'd only have to get within signaling range, anyway. An Earth ship would pick him up.

If there was any Earth left by the time he got there.

He forced his mind away from thinking about that.

It was not until he reached the last spool of microfilm that his situation was forcibly brought to focus in his mind. Thus far, he had thought only about saving himself. But the note at the end of the spool made him realize that there were others to save.

The note said: *These reports must reach Earth before 22 June 2287. After that, it will be too late.*

22 June!

That was — let's see . . .

This is the eighteenth of September, he thought. *June of next year is — nine months away. Surely I can make it in that time. I've got to.*

The only question was, how fast was the hulk of the *Shane* moving?

It took him three days to get the answer accurately. He knew the strength of the field around the ship, and he knew the approximate thrust of the single engine by that time. He had also measured the motions of some of the nearer stars. Thank heaven he was a navigator and not a mechanic or something! At least he knew the direction and distance to Earth, and he knew the distance of the brighter stars from where the ship was.

He had two checks to use, then. Star motion against engine thrust and field strength. He checked them. And rechecked them. And hated the answer.

He would arrive in the vicinity of Sol some time in late July—a full month too late.

What could he do? Increase the output of the engine? No. It was doing the best it could now. Even shutting off the lights wouldn't help anything; they were a microscopic drain on that engine.

He tried to think, tried to reason out a solution, but nothing would come. He found time to curse the fool who had decided the shielding on the lifeboat would have to be removed and repaired. That little craft, with its lighter mass and more powerful field concentration, could make the trip in ten days.

The only trouble was that ten days in that radiation hell would be impossible. He'd be a very well-preserved corpse in half that time, and there'd be no one aboard to guide her.

Maybe he could get one of the other engines going! Sure. He *must* be able to get one more going, some-

how. Anything to cut down on that time!

He went back to the engines again, looking them over carefully. He went over them again. Not a single one could be repaired at all.

Then he rechecked his velocity figures, hoping against hope that he'd made a mistake somewhere, dropped a decimal point or forgotten to divide by two. Anything. Anything!

But there was nothing. His figures had been accurate the first time.

For a while, he just gave up. All he could think of was the terrible blaze of heat that would wipe out Earth when the Rats set off the sun. Man might survive. There were colonies that the Rats didn't know about. But they'd find them eventually. Without Earth, the race would be set back five hundred—maybe five thousand—years. The Rats would would have plenty of time to hunt them out and destroy them.

And then he forced his mind away from that train of thought. There had to be a way to get there on time. Something in the back of his mind told him that there *was* a way.

He had to think. Really think.

On 7 June 2287, a signal officer on the Earth destroyer *Muldoon* picked up a faint signal coming from the general direction of the constellation of Sagittarius. It was the standard emergency signal for distress. The broadcaster only had a very short range, so the source couldn't be too far away.

He made his report to the ship's captain. "We're within easy range of her, sir," he finished. "Shall we pick her up?"

"Might be a Rat trick," said the captain. "But we'll have to take the chance. Beam a call to Earth, and let's go out there dead slow. If the detectors show anything funny, we turn tail and run. We're in no position to fight a Rat ship."

"You think this might be a Rat trap, sir?"

The captain grinned. "If you are referring to the *Muldoon* as a rat trap, Mr. Blake, you're both disrespectful and correct. That's why we're going to run if we see anything funny. This ship is already obsolete by our standards; you can imagine what it is by theirs." He paused. "Get that call in to Earth. Tell 'em this ship is using a distress signal that was obsolete six months ago. And tell 'em we're going out."

"Yes, sir," said the signal officer.

It wasn't a trap. As the *Muldoon* approached the source of the signal, their detectors picked up the ship itself. It was a standard lifeboat from a battleship of the *Shannon* class.

"You don't suppose that's from the *Shane,* do you?" the captain said softly as he looked at the plate. "She's the only ship of that class that's missing. But if that's a *Shane* lifeboat, what took her so long to get here?"

"She's cut her engines, sir!" said the observer. "She evidently knows we're coming."

"All right. Pull her in as soon as

we're close enough. Put her in Number Two lifeboat rack; it's empty."

When the door of the lifeboat opened, the captain of the *Muldoon* was waiting outside the lifeboat rack. He didn't know exactly what he had expected to see, but it somehow seemed fitting that a lean, bearded man in a badly worn uniform and a haggard look about him should step out.

The specter saluted. "Lieutenant Alfred Pendray, of the *Shane,*" he said, in a voice that had almost no strength. He held up a pouch. "Microfilm," he said. "Must get to Earth immediately. No delay. Hurry."

"Catch him!" the captain shouted. "He's falling!" But one of the men nearby had already caught him.

In the sick bay, Pendray came to again. The captain's questioning gradually got the story out of Pendray.

". . . So I didn't know what to do then," he said, his voice a breath whisper. "I knew I had to get that stuff home. Somehow."

"Go on," said the captain, frowning.

"Simple matter," said Pendray. "Nothing to it. Two equations. Little ship goes thirty times as fast as big ship—big *hulk*. Had to get here before 22 June. *Had* to. Only way out, y'unnerstand.

"Anyway. Two equations. Simple. Work 'em in your head. Big ship takes ten months, little one takes ten days. But can't stay in a little ship ten days. No shielding. Be dead before you got here. See?"

"I see," said the captain patiently.

"*But*—and here's a 'mportant point: If you stay on the big ship for eight an' a half months, then y' only got to be in the little ship for a day an' a half to get here. Man can live that long, even under that radiation. See?" And with that, he closed his eyes.

"Do you mean you exposed yourself to the full leakage radiation from a lifeboat engine for thirty-six hours?"

But there was no answer.

"Let him sleep," said the ship's doctor. "If he wakes up again, I'll let you know. But he might not be very lucid from here on in."

"Is there anything you can do?" the captain asked.

"No. Not after a radiation dosage like that." He looked down at Pendray. "His problem was easy, mathematically. But not psychologically. That took real guts to solve."

"Yeah," said the captain gently. "All he had to do was *get* here alive. The problem said nothing about his staying that way."

THE END

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MAKE MINE

By RICK RAPHAEL

HOO," Hetty Thompson cried, waving her battered old felt hat at the clucking cluster of hens eddying around her legs as she plowed through the flock towards the chicken house. "Scat. You, Solomon," she called out, directing her words at the bobbing comb of the big rooster strutting at the edge of the mob. "Don't just stand there like a satisfied cowhand after a night in Reno. Get these noisy females outta my way." She batted at the hens and they scattered with angry squawks of protest.

Hetty paused in the doorway of the chicken house to allow her eyes to become accustomed to the cool gloom after the bright glare of the ranch yard. She could feel the first trickles of sweat forming under the man's shirt she was wearing as the hot, early morning Nevada sun beat down on her back in the doorway.

Moving carefully but quickly through the nests, she reached and groped for the eggs she knew would be found in the scattered straw. As she placed each find carefully in the bucket she carried, her lips moved in a soundless count. When she had finished, she straightened up and left the chicken house, her face reflecting minor irritation.

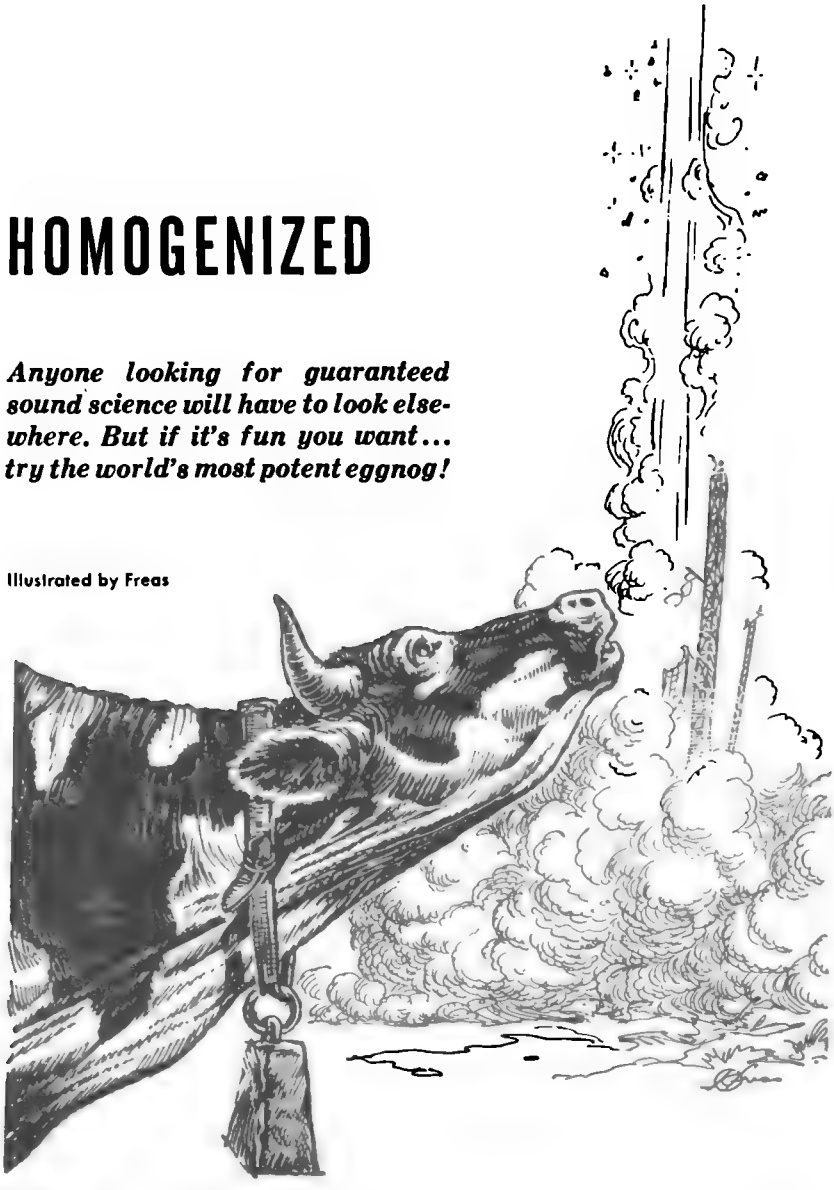
Again the hens swirled about her, hoping for the handfuls of cracked corn she usually tossed to them. On the other side of the yard Solomon stepped majestically along the edge of the vegetable garden, never crossing the hoed line separating garden from yard.

"You'd better stay over there, you

. HOMOGENIZED

Anyone looking for guaranteed sound science will have to look elsewhere. But if it's fun you want... try the world's most potent eggnog!

Illustrated by Freas



no-account Lothario," Hetty growled. "Five eggs short this morning and all you do is act like you were just the business agent for this bunch of fugitives from a dumpling pot." Solomon cocked his head and stared Hetty down. She paused at the foot of the backporch steps and threw the rooster a final remark. "You don't do any better than this you're liable to wind up in that pot yourself." Solomon gave a scornful cluck. "Better still, I'll get me a young rooster in here and take over your job." Solomon let out a squawk and took out at a dead run, herding three hens before him towards the chicken house.

With a satisfied smile of triumph, Hetty climbed the steps and crossed to the kitchen door. She turned and looked back across the yard towards the barn and corrals.

"Barneeeeey," Hetty yelled. "Ain't you finished with that milking yet?"

"Comin' now, Miz Thompson," came the reply from the barn. Hetty let the screen door slam behind her as she walked into the kitchen and placed the bucket of eggs on the big work table. She had her arm up to wipe her moist forehead on the sleeve of her shirt when she spotted the golden egg lying in the middle of the others in the galvanized bucket.

She froze in the arm-lifted position for several seconds, staring at the dully glowing egg. Then she slowly reached out and picked it up. It was slightly heavier than a regular egg, but for the dull, gold-bronze metallic appearance of the shell, looked just like any of the other twenty-odd eggs in the bucket. She was still holding it in the palm of her hand when the kitchen door again slammed and the handy man limped into the room. He carried two pails of milk across the kitchen and set them down near the sink.

"Whatcha lookin' at, Miz Thompson?" Barney Hatfield asked.

Hetty frowned at the egg in her hand without answering. Barney limped around the side of the table for a closer look. Sunlight streaming through the kitchen windows glinted on the shell of the odd egg. Barney's eyes grew round. "Now ain't that something," he whispered in awe.

Hetty started as though someone had snapped their fingers in front of her staring eyes. Her normal look of practical dubiousness returned.

"Huh," she snorted. "Even had me fooled for a second. Something wrong with this egg but it sure is shootin' ain't gold. One of them fool hens must of been pecking in the fertilizer storeroom and got herself an overdose of some of them minerals in that stuff.

"What are you staring at, you old fool," she glared at Barney. "It ain't gold." Hetty laid the egg at one side of the table. She walked to the sink and took a clean, two-gallon milk can from the drainboard and set it in the sink to fill it from the pails of rich, frothy milk Barney had brought in the pails.

"Sally come fresh this morning, Miz Thompson," he said. "Got herself a real fine little bull calf."

Hetty looked at the two pails of milk. "Well, where's the rest of the milk, then?"

"That's Queenie's milk," Barney said. "Sally's is still out on the porch."

"Well bring it in before the sun clabbers it."

"Can't," Barney said.

Hetty swung around and glared at him. "What do you mean, you can't? You suddenly come down with the glanders?"

"No'm, it's just that Sally's milk ain't no good," he replied.

A frown spread over Hetty's face as she hoisted one of the milk pails and began pouring into the can in the sink. "What's wrong with it, Barney? Sally seem sick or something?" she asked.

Barney scratched his head. "I don't rightly know, Miz Thompson. That milk looks all right, or at least, almost all right. It's kinda thin and don't have no foam like you'd expect milk to have. But mostly, it sure don't smell right and it danged well don't taste right.

"Phooey," he made a face at the memory of the taste. "I stuck my finger in it when it looked kinda queer, and took a taste. It shore tasted lousy."

"You probably been currying that mangey old horse of yours before you went to milking," Hetty snorted, "and tasted his cancerous old hide on your fingers. I've told you for the last time to wash your hands before you go to milking them cows. I didn't pay no eighteen hundred dollars for that prize, registered Guernsey just to have you give her bag fever with your dirty hands."

"That ain't so, Miz Thompson," Barney cried indignantly. "I did too, wash my hands. Good, too. I wuzn't near my horse this morning. That milk just weren't no good."

Hetty finished pouring the milk into the cans and after putting the cans in the refrigerator, wiped her hands on her jeans and went out onto the porch, Barney trailing behind her. She bent over and sniffed at the two milk pails setting beside the door. *"Whew,"* she exclaimed, "it sure does smell funny. Hand me that dipper, Barney."

Barney reached for a dipper hanging on a nail beside the kitchen door. Hetty dipped out a small quantity of the milk, sipped, straightened up with a jerk and spewed the milk out into the yard. "Yaawwwk," she spluttered, "that tastes worse 'n Diesel oil."

She stirred distastfully at the swirling, flat-looking liquid in the pails and then turned back to the kitchen. "I never saw the like of it," she exclaimed. "Chickens come out with some kind or sorry-looking egg and now, in the same morning, an eighteen hundred dollar registered, fresh Guernsey gives out hogwash instead of milk." She stared thoughtfully across the yard at the distant mountains, now shimmering in the hot, midmorning sun. "Guess we could swill the hogs with that milk, rather'n throw it out, Barney.

I never seen anything them Durocs wouldn't eat. When you get ready to put the other swill in the cooker, toss that milk in with it and cook it up for the hogs."

Hetty went back into her kitchen and Barney turned and limped across the yard to the tractor shed. He pulled the brim of his sweat-stained Stetson over his eyes and squinted south over the heat-dancing sage and sparse grasslands of Circle T range. Dust devils were pirouetting in the hazy distance towards the mountains forming a corridor leading to the ranch. A dirt road led out of the yard and crossed an oiled county road about five miles south of the ranch. The county road was now the only link the Circle T had to the cattle shipping pens at Carson City. The dirt road arrowed south across the range but fifteen miles from the ranch, a six-strand, new, barbed-wire fence cut the road. A white metal sign with raised letters proclaimed "Road Closed. U. S. Government Military Reservation. Restricted Area. Danger—Peligre. Keep Out."

The taut bands of wire stretched east and west of the road for more than twenty miles in each direction, with duplicates of the metal sign hung on the fence every five hundred yards. Then the wires turned south for nearly a hundred miles, etching in skin-blistering, sun-heated strands, the outlines of the Nevada atomic testing grounds at Frenchman's Flat.

When the wire first went up, Hetty and her ranching neighbors had screamed to high heaven and high congressmen about the loss of the road and range. The fence stayed up. Now they had gotten used to the idea and had even grown blasé about the frequent nuclear blasts that rattled the desert floor sixty miles from ground zero.

Barney built a fire under the big, smoke-blackened cauldron Hetty used for cooking the hog swill. Dale Hamilton, the county agent, had given Hetty a long talk on the dangers of feeding the pigs, raw, uncooked and possibly contaminated, garbage. When Hamilton got graphic about what happened to people who ate pork from such hogs, Hetty turned politely green and had Barney set up the cooking cauldron.

After dumping the kitchen slops into the pot, Barney hiked back across the yard to get the two pails of bad milk.

Hetty was sitting at the kitchen table, putting the eggs into plastic refrigerator dishes when the hog slop exploded in a whooshing roar, followed a split second later by an even louder blast that rocked the ranch buildings. The eggs flew across the room as the lid of the slop cauldron came whistling through the kitchen window in a blizzard of flying glass and buried itself, edgewise, in the wall over the stove. Hetty slammed backwards headfirst into a heap of shattered eggs. A torrent of broken plaster, and crockery fragments rained on her stunned figure. Through dazed eyes, she saw a column of purple-reddish fire rising from the yard.

A woman who has been thrown twenty-three times from a pitching bronco and kicked five times in the process, doesn't stay dazed long. Pawing dripping egg yokes and plaster from her face, Hetty Thompson struggled to her feet and staggered to the kithcen door.

"Barneeey," she bawled, "you all right?"

The column of weird-colored flame had quickly died and only a few flickering pieces of wood from the cauldron fire burned in scattered spots about the yard. Of the cauldron, there wasn't a sign.

"Barney," she cried anxiously, "where are you?"

"Here I am, Miz Thompson." Barney's blackened face peered around the corner of the tractor shed. "You O.K., Miz Thompson?"

"What in thunderation happened?" Hetty called out. "You try to build a fire with dynamite for kindling?"

Shaken but otherwise unharmed, Barney painfully limped over to the ranch house porch.

"Don't ask me what happened, m'am," he said. "I just poured that milk into the slop pot and then put the lid back on and walked off. I heered this big *'whoosh'* and turned around in time to see the lid fly off and the kettle begin to tip into the fire and then there was one helluva blast. It knocked me clean under the tracter shed." He fumbled in his pocket for a cigarette and shakily lighted it.

Hetty peered out over the yard and then looking up, gasped. Perched like a rakish derby hat on the arm of the towering pump windmill was the slop cauldron. "Well I'll be . . ." Hetty Thompson said.

"You sure you didn't pour gas on that fire to make it burn faster, Barney Hatfield?" she barked at the handy man.

"No siree," Barney declaimed loudly, "there weren't no gas anywhere near that fire. Only thing I poured out was that there bad milk." He paused and scratched his head. "Reckon that funny milk coulda done that, Miz Thompson? There ain't no gas made what'll blow up nor burn so funny as that did."

Hetty snorted. "Whoever heard of milk blowing up, you old idiot?" A look of doubt spread. "You put all that milk in there?"

"No'm, just the one bucket." Barney pointed to the other pail beside the kitchen door, now half-empty and standing in a pool of liquid sloshed out by the blast wave. Hetty studied the milk pail for a minute and then resolutely picked it up and walked out into the yard.

"Only one way to find out," she said. "Get me a tin can, Barney."

She poured about two tablespoons of the milk into the bottom of the can while Barney collected a small pile of kindling. Removing the milk pail to a safe distance, Hetty lighted the little pile of kindling, set the tin can atop the burning wood and scooted several yards away to join Barney who had been watching from afar. In less than a minute a booming

whoosh sent a miniature column of purple, gaseous flame spouting from the can. "Well whadda you know about that?" Hetty exclaimed wonderingly.

The can had flown off the fire a few feet but didn't explode. Hetty went back to the milk pail and collecting less than a teaspoon full in the water dipper, walked to the fire. Standing as far back as she could and still reach over the flames, she carefully sprinkled a few drops of the liquid directly into the fire and then jumped back. Miniature balls of purple flame erupted from the fire before she could move. Pieces of flaming kindling flew in all directions and one slammed Barney across the back of the neck and sent a shower of sparks down his back.

The handy man let out a yowl of pain and leaped for the watering trough beside the corral, smoke trailing behind him. Hetty thoughtfully surveyed the scene of her experiment from beneath raised eyebrows. Then she grunted with satisfaction, picked up the remaining milk in the pail and went back to the ranch house. Barney climbed drippingly from the horse trough.

The kitchen was a mess. Splattered eggs were over everything and broken glass, crockery and plaster covered the floor, table and counters. Only one egg remained unbroken. That was the golden egg. Hetty picked it up and shook it. There was a faint sensation of something moving inside the tough, metallic-looking shell. It shook almost as a normal egg might, but not quite. Hetty set the strange object on a shelf and turned to the task of cleaning up.

Johnny Culpepper, the ranch's other full-time hand and Hetty's assistant manager, drove the pickup into the yard just before noon. He parked in the shade of the huge cottonwood tree beside the house and bounced out with an armload of mail and newspapers. Inside the kitchen door, he dumped the mail on the sideboard and started to toss his hat on a wall hook when he noticed the condition of the room. Hetty was dishing out fragrant, warmed-over stew into three lunch dishes on the table. She had cleaned up the worst of the mess and changed into a fresh shirt and jeans. Her iron-gray hair was pulled back in a still-damp knot at the back after a hasty scrubbing to get out the gooey mixture of eggs and plaster.

"Holy smoke, Hetty," Johnny said. "What happened here? Your pressure kettle blow up?" His eyes widened when he saw the lid of the slop cauldron still embedded in the wall over the stove. His gaze tracked back and took in the shattered window.

"Had an accident," Hetty said matter-of-factly, putting the last dishes on the table. "Tell you about it when we eat. Now you go wash up and call Barney. I want you to put some new glass in that window this afternoon and get that danged lid outta the wall."

Curious and puzzled, Johnny washed at the kitchen sink and then walked to the door to shout for Barney. On the other side of the yard, Barney released the pump windmill clutch. While Johnny watched from the porch, the weight of the heavy slop cauldron slowly turned the big windmill and as the arm adorned by the kettle rotated downward, the cast-iron pot slipped off and fell to the hard-packed ground with a booming clang.

"Well, for the luvva Pete,?" Johnny said in amazement. "Hey, Barney, time to eat. C'mon in."

Barney trudged across the yard and limped into the kitchen to wash. They sat down to the table. "Now just what have you two been up to," Johnny demanded as they attacked the food-laden dishes.

Between mouthfuls, the two older people gave him a rundown on the morning's mishaps. The more Johnny heard, the wilder it sounded. Johnny had been a part of the Circle T since he was ten years old. That was the year Hetty jerked him out of the hands of a Carson City policeman who had been in the process of hauling the ragged and dirty youngster to the station house for swiping a box of cookies from a grocery store. Johnny's mother was dead and his father, once the town's best mechanic, had turned into the town's best drunk.

During the times his father slept one off, either in the shack the man and boy occupied at the edge of town, or in the local lockup, Johnny ran wild.

Hetty took the boy to the ranch for two reasons. Mainly it was the empty ache in her heart since the death of Big Jim Thompson a year earlier following a ranch tractor accident that had crushed his chest. The other was her well-hidden disappointment that she had been childless. Hetty's bluff, weathered features would never admit to loneliness or heartache. Beneath the surface, all the warmth and love she had went out to the scared but belligerent youngster. But she never let much affection show through until Johnny had become part of her life. Johnny's father died the following winter after pneumonia brought on by a night of lying drunk in the cold shack during a blizzard. It was accepted without legal formality around the county that Johnny automatically became Hetty's boy.

She cuffed and comforted him into a gawky-happy adolescence, pushed him through high school and then, at eighteen, sent him off to the University of California at Davis to learn what the pundits of the United States Department of Agriculture had to say about animal husbandry and ranch management.

When Hetty and Barney had finished their recitation, Johnny wore a look of frank disbelief. "If I didn't know you two better, I'd say you both been belting the bourbon bottle while I was gone. But this I've got to see."

They finished lunch and, after Hetty stacked the dishes in the sink,

trooped out to the porch where Johnny went through the same examination of the milk. Again, a little fire was built in the open safety of the yard and a few drops of the liquid used to produce the same technicolored, combustive effects.

"Well, what do you know," Johnny exclaimed, "a four hundred octane Guernsey cow!"

Johnny kicked out the fire and carried the milk pail to the tractor shed. He parked the milk on a workbench and gathered up an armful of tools to repair the blast-torn kitchen. He started to leave but when the milk bucket caught his eye, he unloaded the tools and fished around under the workbench for an empty five-gallon gasoline can. He poured the remaining milk into the closed gasoline can and replaced the cap. Then he took his tools and a pane of glass from an overhead rack and headed for the house.

Hetty came into the kitchen as he was prying at the cauldron lid in the wall.

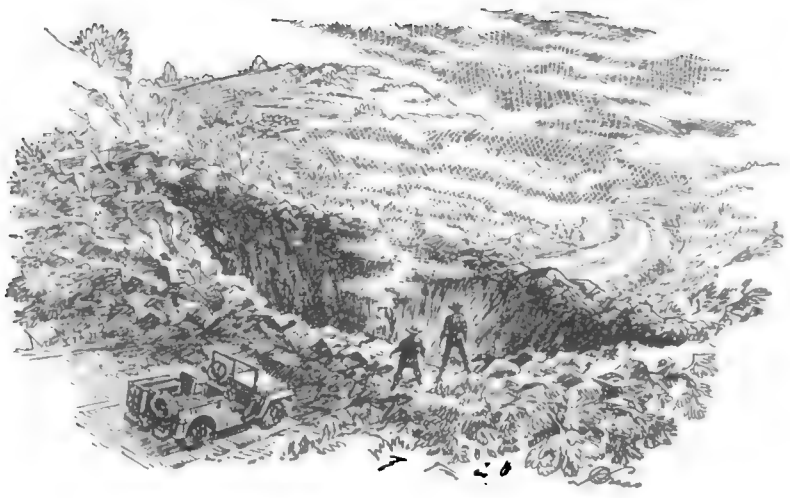
"You're going to make a worse mess before you're through," she said, "so I'll just let you finish and then clean up the whole mess afterwards. I got other things to do anyway."

She jammed a man's old felt hat on her head and left the house. Barney was unloading the last of the supplies Johnny had brought from Carson in the truck. Hetty shielded her eyes against the metallic glare of the afternoon sun. "Gettin' pretty dry, Barney. Throw some salt blocks in the pickup and I'll run them down to the south pasture and see if the pumps need to be turned on.

"And you might get that wind pump going in case we get a little breeze later this afternoon. But in any case, better run the yard pump for an hour or so and get some water up into the tank. I'll be back as soon as I take a ride through the pasture. I want to see how that Angus yearling is coming that I picked out for house beef."

A few minutes later, Hetty in the pickup disappeared behind a hot swirl of yellow dust. Barney ambled to the cool pump house beneath the towering windmill. An electric motor, powered either from the REA line or from direct current stored in a bank of wet cell batteries, bulked large in the small shed. To the left, a small, gasoline-driven generator supplied standby power if no wind was blowing to turn the arm-driven generator or if the lines happened to be down, as was often the case in the winter.

Barney threw the switch to start the pump motor. Nothing happened. He reached for the light switch to test the single bulb hanging from a cord to the ceiling. Same nothing. Muttering darkly to himself, he changed the pump engine leads to DC current and closed the switch to the battery bank. The engine squeaked and whined slowly but when Barney threw in the clutch to drive the pump, it stopped and just hummed faintly. Then he opened the AC fuse box.



Johnny had freed the cauldron lid and was knocking out bits of broken glass from the kitchen window frame before putting in the new glass when Barney limped into the room.

"That pot busted the pump house 'lectric line, Johnny, when it went sailing," he said. "Miz Thompson wants to pump up some water and on top of that, the batteries are down. You got time to fix the line?"

Johnny paused and surveyed the kitchen. "I'm going to be working here for another hour anyway so Hetty can clean up when she gets back. Why don't you fire up the gasoline kicker for now and I'll fix the line when I get through here," he said.

"O.K.," Barney nodded and turned to leave. "Oh, forgot to ask you. Miz Thompson tell you about the egg?"

"What egg?" Johnny asked.

"The gold one."

Johnny grinned. "Sure, and I saw the goose when I came in. And you're Jack and the windmill is your beanstalk. Go climb it, Barney and cut out the fairy tales."

"Naw, Johnny," Barney protested, "I ain't kidding. Miz Thompson got a gold egg from the hens this morning. At least, it looks kinda like gold but she says it ain't. See, here it is." He reached into the cupboard where Hetty had placed the odd egg. He walked over and handed it to Johnny who was sitting on the sink drain counter to work on the shattered window.

The younger man turned the egg over in his hand. "It sure feels funny. Wonder what the inside looks like?" He banged the egg gently against the edge of the drain board. When

it didn't crack, he slammed it harder, but then realizing that if it did break suddenly, it would squish onto the floor, he put the egg on the counter and tapped it with his hammer.

The shell split and a clear liquid poured out on to the drain board, thin and clear, not glutenous like a normal egg white. A small, reddish ball, obviously the yoke, rolled across the board, fell into the sink and broke into powdery fragments. A faint etherlike odor arose from the mess.

"I guess Miz Thompson was right," Barney said. "She said that hen musta been pecking in the fertilizer chemicals. Never seen no egg like that before."

"Yeh," Johnny said puzzledly. "Well, so much for that." He tossed the golden shell to one side and turned back to his glass work. Barney left for the pumphouse.

Inside the pumphouse, Barney opened the gasoline engine tank and poked a stick down to test the fuel level. The stick came out almost dry. With another string of mutterings, he limped across the yard to the tractor shed for a gas can. Back in the pumphouse, he poured the engine tank full, set the gas can aside and then, after priming the carburetor, yanked on the starter pull rope. The engine caught with a spluttering roar and began racing madly. Barney lunged for the throttle and cut it back to idle, but even then, the engine was running at near full speed. Then Barney noticed the white fluid running down the side of the engine tank and dripping from the spout of the gasoline can. He grinned broadly, cut in the pump clutch and hurriedly limped across the yard to the kitchen.

"Hey, Johnny," he called, "did you put that milk o' Sally's into a gas can?"

Johnny leaned through the open kitchen window. "Yeh, why?"

"Well, I just filled the kicker with it by accident, and man, you orter hear that engine run," Barney exclaimed. "Come see."

Johnny swung his legs through the window and dropped lightly to the yard. The two men were halfway across the yard from the pumphouse when a loud explosion ripped the building. Parts of the pump engine flew through the thin walls like shrapnel. A billowing cloud of purple smoke welled out of the ruptured building as Johnny and Barney flattened themselves against the hot, packed earth. Flames licked up from the pump shed. The men ran for the horse trough and grabbing pails of water, raced for the pumphouse. The fire had just started into the wooden walls of the building and a few splashes of water doused the flames.

They eyed the ruins of the gasoline engine. "Holy cow," Johnny exclaimed, "that stuff blew the engine right apart." He gazed up at the holes in the pumphouse roof. "Blew the cylinders and head right out the roof. Holy cow!"

Barney was pawing at the pump and electric motor. "Didn't seem to hurt the pump none. Guess we bet-

ter get that 'lectric line fixed though, now that we ain't got no more gas engine."

The two men went to work on the pump motor. The broken line outside the building was spliced and twenty minutes later, Johnny threw the AC switch. The big, electric motor spun into action and settled into a workmanlike hum. The overhead light dimmed briefly when the pump load was thrown on and then the slip-slap sound of the pump filled the shed. They watched and listened for a couple of minutes. Assured that the pump was working satisfactorily, they left the wrecked pumphouse.

Johnny was carrying the gasoline can of milk. "Good thing you set this off to one side where it didn't get hit and go off," he said. "The way this stuff reacts, we'd be without a pump, engine, or windmill if it had.

"Barney, be a good guy and finish putting in that glass for me will you? I've got the frame all ready to putty. I've got me some fiddlin' and figurin' to do."

Johnny angled off to the tractor and tool shed and disappeared inside. Barney limped into the kitchen and went to work on the window glass. From the tractor shed came the sounds of an engine spluttering, racing, backfiring and then, just idling.

When Hetty drove back into the ranch yard an hour or so later, Johnny was rodeoing the farm tractor around the yard like a teen-ager, his face split in a wide grin. She parked the truck under the tree as Johnny drove the tractor alongside and gunned the engine, still grinning.

"What in tarnation is this all about?" Hetty asked as she climbed down from the pickup.

"Know what this tractor's running on?" Johnny shouted over the noise of the engine.

"Of course I do, you young idiot," she exclaimed. "It's gasoline."

"Wrong," Johnny yelled triumphantly. "It's running on Sally's milk!"

The next morning, Johnny had mixed up two hundred gallons of Sally's Fuel and had the pickup, tractor, cattle truck and his 1958 Ford and Hetty's '59 Chevrolet station wagon all purring on the mixture.

Mixing it was a simple process after he experimented and found the right proportions. One quart of pure Sally's milk to one hundred gallons of water. He had used the two remaining quarts in the gasoline can to make the mixture but by morning, Sally had graced the ranch with five more gallons of the pure concentrate. Johnny carefully stored the concentrated milk in a scoured fifty-five gallon gasoline drum in the tool shed.

"We've hit a gold mine," he told Hetty exultantly. "We're never going to have to buy gasoline again. On top of that, at the rate Sally's turning this stuff out, we can start

selling it in a couple of weeks and make a fortune."

That same morning, Hetty collected three more of the golden eggs.

"Set 'em on the shelf," Johnny said, "and when we go into town next time I'll have Dale look at them and maybe tell us what those hens have been into. I'll probably go into town again Saturday for the mail."

But when Saturday came, Johnny was hobbling around the ranch on a wrenched ankle, suffered when his horse stumbled in a gopher hole and tossed him.

"You stay off that leg," Hetty ordered. "I'll go into town for the mail. Them girls can just struggle along without your romancing this week." Johnny made a wry face but obeyed orders.

"Barneeey," Hetty bawled, "bring me a quarter of beef outta the cooler." Barney stuck his head out of the barn and nodded. "I been promising some good beef to Judge Hatcher for a month of Sundays now," Hetty said to Johnny.

"If you're going to stop by the courthouse, how about taking those crazy eggs of yours into the county agent's office and leave them there for analysis," Johnny suggested. He hobbled into the kitchen to get the golden eggs.

Barney arrived with the chilled quarter of beef wrapped in burlap. He tossed it in the bed of the pickup and threw more sacks over it to keep it cool under the broiling, midmorning sun. Johnny came out with the eggs in a light cardboard box stuffed with crumpled newspapers. He wedged the box against the side of beef in the forward corner of the truck bed. "One more thing, Hetty," he said. "I've got a half drum of drain oil in the tractor shed that I've been meaning to trade in for some gearbox lube that Willy Simons said he'd let me have. Can you drop it off at his station and pick up the grease?"

"Throw it on," Hetty said, "while I go change into some town clothes."

Johnny started to hobble down the porch steps when Barney stopped him. "I'll get it boy, you stay off that ankle." Barney climbed into the pickup and drove it around to the tractor shed. He spotted two oil drums in the gloomy shed. He tilted the nearest one and felt liquid slosh near the halfway mark, then rolled it out the door. Barney heaved it into the truck bed, stood it on end against the cab and drove the pickup back to the ranch house door as Hetty came out wearing clean jeans and a bright, flowered blouse. Her gray hair was tucked in a neat bun beneath a blocked Stetson hat.

She climbed into the truck, waved to the two men and drove out the yard. As she bumped over the cattle guard at the gate, the wooden plug that Johnny had jury-rigged to cork the gasoline drum with its twenty-gallon load of pure Sally's milk, bounced out.

A small geyser of white fluid shot out of the drum as she hit another bump and then the pickup went jolting down the ranch road, little

splashes of Sally's milk sloshing out with each bump and forming a pool on the bottom of the truck. When Hetty cowboyed onto the county road, the drum tipped dangerously and then bounced back onto its base. This time a fountain of milk geysered out and splashed heavily into the box of golden eggs. Hetty drove on.

But not for long.

With a ranch woman's disregard for watching the road, Hetty constantly scanned the nearby range lands where small bands of her cherished black Angus grazed. She prided herself on the fact that despite her sixty years, her eyes were still sharp enough to spot a worm-ridden cow at a thousand yards.

Two miles after she turned onto the county road, which ran through Circle T range land, her roving gaze took in a cow and calf on a hillside a few hundred yards south of the road. Hetty slowed the pickup to fifty miles an hour and squinted into the sun. She grunted with satisfaction and slammed on the brakes. The truck swerved and skidded to a halt at the left side of the deserted road. Hetty leaped from the truck and began a fast walk up the hillside for a closer look at the cow and calf.

She never heard the dull thump of the milk drum tipping onto the edge of the truck bed. Hetty topped the hill and walked slowly towards the cow and calf that were now edging away from her. As she eased down the far side of the hill out of sight of the pickup, a steady stream of Sally's milk was engulfing the box of golden eggs. A minute later, the reduced contents caused the drum to shift and slip. It fell onto the eggs, cracking a half dozen.

The earth split open and the world around Hetty erupted in a roaring inferno of purple-red fire and ear-shattering sound. The rolling concussion swept Hetty from her feet and tumbled her into a drywash gully at the base of the hill. The gully saved her life as the sky-splitting shock wave rolled over her. Stunned and deafened, she flattened herself under a slight overhang.

The rolling blast rocked ranches and towns for more than one hundred miles and the ground wave triggered the seismographs at the University of California nearly two hundred miles away and at UCLA, four hundred miles distant. Tracking and testing instruments went wild along the entire length of the AEC atomic test grounds, a mere sixty miles south of the smoking, gaping hole that marked the end of the Circle T pickup truck.

In a direct line, the ranch house was about eight miles from the explosion.

Johnny was lounging in Hetty's favorite rocking chair on the wide back verandah, lighting a cigarette and Barney was perched on the porch railing when the sky was blotted out by the dazzling violet light of the blast. They were blinking in frozen amazement when the shock wave smashed into the ranch, flattening the

flimsier buildings and buckling the side and roof of the steel-braced barn. Every window on the place blew out in a storm of deadly glass shards. The rolling ground wave in the wake of the shock blast, rocked and bounced the solid, timber and adobe main house.

The concussion hit Johnny like a fist, pinwheeling him backwards in the rocker against the wall of the house. It caught Barney like a sack of sodden rags and flung him atop the dazed and semiconscious younger man.

The first frightened screams of the horses in the barns and corrals were mingling with the bawling of the heifers in the calf pens when the sound of the explosion caught up with the devastation of the shock and ground waves.

Like the reverberation of a thousand massed cannon firing at once, the soul-searing sound rumbled out of the desert and boiled with almost tangible density into the shattered ranch yard. It flattened the feebly-stirring men on the porch and then thundered on in a tidal wave of noise.

Barney moaned and rolled off the tangle of porch rocker and stunned youth beneath him. Johnny lay dazed another second or two and then began struggling to his feet.

"Hetty," he croaked, pointing wildly to the south where a massive, dirty column of purple smoke and fire rose skyward like the stem of a monstrous and malignant toadstool. "Hetty's out there."

He stumbled from the porch and broke into a staggering run to the pile of broken planks that seconds ago had been the tractor shed. As he crossed the yard, a great gust of wind whipped back from the north, pumping clouds of dry, dusty earth before it. The force of the wind almost knocked the bruised and shaken Johnny from his feet once again as it swept back over the ranch, in the direction of the great pillar of purple smoke.

"Implosion," Johnny's mind registered.

He tore at the stack of loose boards leaning against the station wagon, flinging them fiercely aside in his frantic efforts to free the vehicle. Barney limped up to join him and a minute later they had cleared a way into the wagon. Johnny squeezed into the front seat and drove it back from under more leaning boards. Three of the side windows were smashed but the windshield was intact except for a small, starred crack in the safety glass. Clear of the debris, Barney opened the opposite door and slid in beside Johnny. Dirt spun from beneath the wheels of the car as he slammed his foot to the floor and raced towards the smoke column that now towered more than a mile and a half into the air.

Beneath her protective overhang, Hetty stirred and moaned feebly. Twin rivulets of dark blood trickled from her nostrils. Thick dust was settling on the area and she coughed and gasped for breath.

On the opposite side of the hill, a

vast, torn crater, nearly a hundred feet across and six to ten feet deep, smoked like a stirring volcano and gave off a strange, pungent odor of ether.

Johnny Culpepper's dramatic charge to the rescue was no more dramatic than the reaction in a dozen other places in Nevada and California. Particularly sixty miles south where a small army of military and scientific men were preparing for an atomic underground shot when the Circle T pickup vanished.

The shock wave rippled across the desert floor, flowed around the mountains and funneled into Frenchman's Flat, setting off every shock-measuring instrument. Then came the ground wave, rolling through the earth like a gopher through a garden. Ditto for ground-wave measuring devices. Lastly, the sound boomed onto the startled scientists and soldiers like the pounding of great timpani under the vaulted dome of the burning sky.

On mountain top observation posts, technicians turned unbelieving eyes north to the burgeoning pillar of smoke and dust, then yelped and swung optical and electronic instruments to bear on the fantastic column.

In less than fifteen minutes, the test under preparation had been canceled, all equipment secured and the first assault waves of scientists, soldiers, intelligence and security men were racing north behind white-suited and sealed radiation detection teams cradling Geiger counters in their arms like submachine guns. Telephone lines were jammed with calls from Atomic Energy Commission field officials reporting the phenomena to Washington and calling for aid from West Coast and New Mexico AEC bases. Jet fighters at Nellis Air Force base near Las Vegas, were scrambled and roared north over the ground vehicles to report visual conditions near the purple pillar of power.

The Associated Press office in San Francisco had just received word of the quake recorded by the seismograph at Berkeley when a staffer on the other side of the desk answered a call from the AP stringer in Carson City, reporting the blast and mighty cloud in the desert sky. One fast look at the map showed that the explosion was well north of the AEC testing ground limits. The Carson City stringer was ordered to get out to the scene on the double and hold the fort while reinforcements of staffers and photographers were flown from 'Frisco.

Before any of the official or civil agencies had swung into action, the Circle T station wagon had rocketed off the ranch road and turned onto the oiled, county highway leading both to Carson City—and the now-expanding but less dense column of smoke.

Johnny hunched over the wheel and peered through the thickening pall of smoke and dust, reluctant to ease off his breakneck speed but knowing that they had to find Hetty —if she were alive. Neither man had

said a word since the wagon raced from the ranch yard.

There was no valid reason to associate the explosion with Hetty, yet instinctively and naggingly, Johnny knew that somehow Hetty was involved. Barney, still ignorant of his error of the oil drums, just clung to his seat and prayed for the best.

The dust was almost too thick to see, forcing Johnny to slow the station wagon as they penetrated deeper into the base of the smoke column. Hiding under his frantic concern for Hetty was the half-formed thought that the whole thing was an atomic explosion and that he and Barney were heading into sure radiation deaths. His logic nudged at the thought and said, "If it were atomic, you started dying back on the porch, so might as well play the hand out."

A puff of wind swirled the dust up away from the road as the station wagon came up to the smoking crater. Johnny slammed on the brakes and he and Barney jumped from the car to stand, awe-struck, at the edge of the hole.

The dust-deadened air muffled Johnny's sobbing exclamation:

"Dear God!"

They walked slowly around the ragged edges of the crater. Barney bent down and picked a tiny metallic fragment from the pavement. He stared at it and then tapped Johnny on the arm and handed it to him, wordlessly. It was a twisted piece of body steel, bright at its torn edges and coated with the scarlet ename that had been the color of the Circl T pickup.

Johnny's eyes filled with tears anc he shoved the little scrap of metal ir his pocket. "Let's see what else we can find, Barney." The two men be gan working a slow search of the area in ever-widening circles from the crater that led them finally up and over the top of the little hill to the south of the road.

Fifteen minutes later they found Hetty and ten minutes after that, the wiry, resilient ranchwoman was sitting between them on the seat of the station wagon, explaining how she happened to be clear of the pickup when the blast occurred.

The suspicion that had been growing in Johnny's mind, now brought into the open by his relief at finding Hetty alive and virtually unhurt, bloomed into full flower.

"Barney," Johnny asked softly, "which oil drum did you put in the back of the pickup?"

The facts were falling into place like the pieces of a jigsaw puzzle when the Carson City reporter, leading a caravan of cars and emergency vehicles from town by a good ten minutes and beating the AEC and military teams by twenty minutes, found the Circle T trio sitting in the station wagon at the lip of the now faintly smoldering crater.

A half hour later, the AP man in San Francisco picked up the phone.

"I've just come back from that explosion," the Carson City stringer said. The AP man put his hand over

the phone and called across the desk. "Get ready for a '95' first lead blast."

"O.K.," the San Francisco desk man said, "let's have it." He tucked the phone between chin and shoulder and poised over his typewriter.

"Well, there's a crater more than one hundred feet across and ten feet deep," the Carson City stringer dutifully recounted. "The scene is on County Road 38, about forty miles east of here and the blast rocked Carson City and caused extensive breakage for miles around."

"What caused it," the AP desk man asked as he pounded out a lead.

"A lady at the scene said her milk and eggs blew up," the Carson City stringer said.

Ten miles south, the leading AEC disaster truck stopped behind the six-strand fence blocking the range road. Two men with wire cutters, jumped from the truck and snipped the twanging wires. The metal "Keep Out" sign banged to the ground and was kicked aside. The truck rolled through the gap and the men swung aboard. Behind them was a curtain of dust rising sluggishly in the hot sky, marking the long convoy of other official vehicles pressing hard on the trail of the emergency truck.

When the range road cut across the county highway, the driver paused long enough to see that the heaviest smoke concentrations from the unknown blast lay to the west. He swung left onto the oiled road and barreled westward. In less than a mile, he spied the flashing red light of a State trooper's car parked in the center of the road. The scene looked like a combination of the San Francisco quake and the Los Angeles county fair.

Dozens of cars, trucks, two fire engines and a Good Humor man were scattered around the open range land on both sides of the vast crater still smoldering in the road. A film of purple dust covered the immediate area and still hung in the air, coating cars and people. Scores of men, women and children lined the rim of the crater, gawking into the smoky pit, while other scores roamed aimlessly around the nearby hill and desert.

A young sheriff's deputy standing beside the State trooper's car raised his hand to halt the AEC disaster van. The truck stopped and the white-suited radiation team leaped from the vehicle, counters in hand, racing for the crater.

"Back," the chief of the squad yelled at the top of his lungs. "Everybody get back. This area is radiation contaminated. Hurry!"

There was a second of stunned comprehension and then a mad, pandemonic scrambling of persons and cars, bumping and jockeying to flee. The radiation team fanned out around the crater, fumbling at the level scales on their counters when the instruments failed to indicate anything more than normal background count.

All of the vehicles had pulled back to safety—all except a slightly battered station wagon still parked a

yard or two from the eastern edge of the crater.

The radiation squad leader ran over to the wagon. Three people, two men and a dirty, disheveled and bloody-nosed older woman, sat in the front seat munching Good Humor bars.

"Didn't you hear me?" the AEC man yelled. "Get outta here. This area's hot. Radioactive. Dangerous. GET MOVING!"

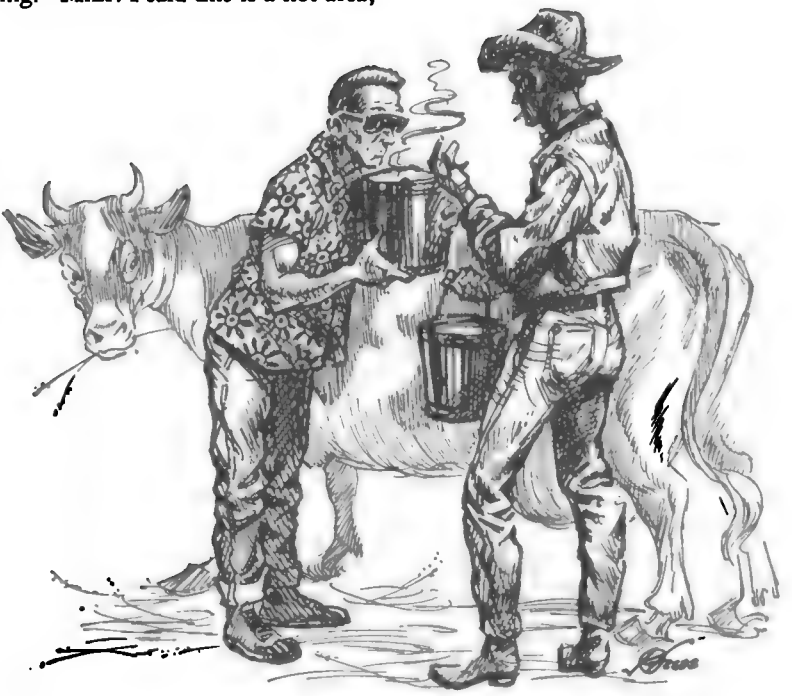
The woman leaned out the window and patted the radiation expert soothingly on the shoulder.

"Shucks, sonny, no need to get this excited over a little spilt milk."

"Milk," the AEC man yelped, purpling. "Milk! I said this is a hot area; it's loaded with radiation. Look at this—" He pointed to the meter on his counter, then stopped, gawked at the instrument and shook it. And stared again. The meter flicked placidly along at the barely-above-normal background level count.

"Hey, Jack," one of the other white-suited men on the far side of the crater called, "this hole doesn't register a thing."

The squad chief stared incredulously at his counter and banged it against the side of the station wagon. Still the needle held in the normal zone. He banged it harder and sud-



denly the needle dropped to zero as Hetty and her ranch hands peered over the AEC man's shoulder at the dial.

"Now ain't that a shame," Barney said sympathetically. "You done broke it."

The rest of the disaster squad, helmets off in the blazing sun and lead-coated suits unfastened, drifted back to the squad leader at the Circle T station wagon. A mile east, the rest of the AEC convoy had arrived and halted in a huge fan of vehicles, parked a safe distance from the crater. A line of more white-suited detection experts moved cautiously forward.

With a stunned look, the first squad leader turned and walked slowly down the road towards the approaching line. He stopped once and looked back at the gaping hole, down at his useless counter, shook his head and continued on to meet the advancing units.

By nightfall, new strands of barbed wire reflected the last rays of the red Nevada sun. Armed military policemen and AEC security police in powder-blue battle jackets, patrolled the fences around the county road crater. And around the fence that now enclosed the immediate vicinity of the Circle T ranch buildings. Floodlights bathed the wire and cast an eerie glow over the mass of packed cars and persons jammed outside the fence. A small helicopter sat off to the right of the impromtu parking lot and an NBC newscaster gave the world a verbal description of the scene while he tried to talk above the snorting of the gas-powered generator that was supplying the Associated Press radio-telephone link to San Francisco.

Black AEC vans and dun colored military vehicles raced to and from the ranch headquarters, pausing to be cleared by the sentries guarding the main gates.

The AP log recorded one hundred eighteen major daily papers using the AP story that afternoon and the following morning:

CARSON CITY, NEV., May 12 (AP)—A kiloton eggnog rocked the scientific world this morning.

"On a Nevada ranch, forty miles east of here, 60-year-old Mehatibel Thompson is milking a cow that gives milk more powerful than an atomic bomb. Her chickens are laying the triggering mechanisms.

'This the world learned today when an earth-shaking explosion rocked . . ."

Inside the Circle T ranch house, Hetty, bathed and cleaned and only slightly the worse for her experiences, was hustling about the kitchen throwing together a hasty meal. Johnny and Barney had swept up a huge pile of broken glass, crockery and dirt and Hetty had salvaged what dishes remained unshattered by the blast.

She weaved through a dozen men grouped around the kitchen table, some in military or security police garb, three of them wearing the uniform of the atomic scientist in the field—bright Hawaiian sports shirts, dark glasses, blue denims and sneakers. Johnny and Barney huddled

against the kitchen drainboard out of the main stream of traffic. The final editions of the San Francisco *Call-Bulletin,* Oakland *Tribune,* Los Angeles *Herald-Express* and the Carson City *Appeal* were spread out on the table. Hetty pushed them aside to put down dishes.

The glaring black headlines stared up at her. "Dairy Detonation Devastates Desert," the alliterative *Chronicle* banner read; "Bossy's Blast Rocks Bay Area," said the *Trib;* "Atomic Butter-And-Egg Blast Jars LA," the somewhat inaccurate *Herald-Ex* proclaimed; "Thompson Ranch Scene of Explosion," the *Appeal* stated, hewing to solid facts.

"Mrs. Thompson," the oldest of the scientists said, "won't you please put down those dishes for a few minutes and give us the straight story. All afternoon long its been one thing or another with you and all we've been able to get out of you is this crazy milk-egg routine."

"Time enough to talk after we've all had a bite to eat," Hetty said, juggling a platter of steaks and a huge bowl of mashed potatoes to the table. "Now we've all had a hard day and we can all stand to get on the outside of some solid food. I ain't had a bite to eat since this morning and I guess you boys haven't had much either. And since you've seemed to have made yourselves to home here, then by golly, you're going to sit down and eat with us.

"Besides," she added over her shoulder as she went back to the stove for vegetables and bread, "me 'n Johnny have already told you what story there is to tell. That's all there is to it."

She put more platters on the now-heaping table and then went around the table pouring coffee from the big ranch pot. "All right, you men sit down now and dig in," she ordered.

"Mrs. Thompson," an Army major with a heavy brush mustache said, "we didn't come here to eat. We came for information."

Hetty shoved back a stray wisp of hair and glared at the man.

"Now you listen to me, you young whippersnapper. I didn't invite you, but since you're here, you'll do me the goodness of being a mite more polite," she snapped.

The major winced and glanced at the senior scientist. The older man raised his eyes expressively and shrugged. He moved to the table and sat down. There was a general scuffling of chairs and the rest of the group took places around the big table. Johnny and Barney took their usual flanking positions beside Hetty at the head of the board.

Hetty took her seat and looked around the table with a pleased smile. "Now that's more like it."

She bowed her head and, after a startled glance, the strangers followed suit.

"We thank Thee, dear Lord," Hetty said quietly, "for this food which we are about to eat and for all Your help to us this day. It's been a little rough in spots but I reckon You've got Your reasons for all of it. Seein' as how tomorrow is Your day any-

way, we ask that it be just a mite quieter. Amen."

The satisfying clatter of chinaware and silver and polite muttered requests for more potatoes and gravy filled the kitchen for the next quarter of an hour as the hungry men went to work on the prime Circle T yearling beef.

After his second steak, third helping of potatoes and gravy and fourth cup of coffee, the senior scientist contentedly shoved back from the table. Hetty was polishing the last dabs of gravy from her plate with a scrap of bread. The scientist pulled a pipe and tobacco pouch from his pocket.

"With your permission, m'am," he asked his hostess. Hetty grinned. "For heaven's sake, fire it up, sonny. Big Jim— that was my husband — used to say that no meal could be said properly finished unless it had been smoked into position for digestion."

Several of the other men at the table followed suit with pipes, cigars and cigarettes. Hetty smiled benignly around the table and turned to the senior scientist.

"What did you say your name was, sonny?" she asked.

"Dr. Floyd Peterson, Mrs. Thompson," he replied, "and at forty-six years of age, I deeply thank you for that 'sonny'."

He reached for the stack of newspapers on the floor beside his chair and pushing back his plate, laid them on the table.

"Now, Mrs. Thompson, let's get down to facts," he rapped the headlines with a knuckle. "You have played hell with our schedule and I've got to have the answers soon before I have the full atomic commission and a congressional investigation breathing down my neck.

"What did you use to make that junior grade earthquake?"

"Why, I've already told you more'n a dozen times, sonny," Hetty replied. "It must of been the combination of them queer eggs and Sally's milk."

The brush-mustached major sipping his coffee, spluttered and choked. Beside him, the head of the AEC security force at Frenchman's Flat leaned forward.

"Mrs. Thompson, I don't know what your motives are but until I find out, I'm deeply thankful that you gave those news hounds this . . . this, butter and egg business," he said.

"Milk and eggs," Hetty corrected him mildly.

"Well, milk and eggs, then. But the time has ended for playing games. We must know what caused that explosion and you and Mr. Culpepper and Mr. Hatfield," he nodded to Johnny and Barney sitting beside Hetty, "are the only ones who can tell us."

"Already told you," Hetty repeated. Johnny hid a grin.

"Look, Mrs. Thompson," Dr. Peterson said loudly and with ill-concealed exasperation, "you created and set off an explosive force that dwarfed every test we've made at Frenchman's Flat in four years. The

force of your explosive was apparently greater than that of a fair-sized atomic device and only our Pacific tests— and those of the Russians— have been any greater. Yet within a half hour or forty-five minutes after the blast there wasn't a trace of radiation at ground level, no aerial radiation and not one report of upper atmosphere contamination or fallout within a thousand miles.

"Mrs. Thompson, I appeal to your patriotism. Your friends, your country, the free people of the world, need this invention of yours."

Hetty's eyes grew wide and then her features set in a mold of firm determination. Shoving back her chair and raising to stand stiffly erect and with chin thrust forward, she was every inch the True Pioneer Woman of the West.

"I never thought of that," she said solemnly. "By golly, if my country needs this like that, then by golly, my country's going to have it."

The officials leaned forward in anticipation.

"You can have Sally's Cloverdale Marathon III and I don't want one cent for her, either. And you can take the hens, too."

There was a stunned silence and then the Army major strangled on a mouthful of coffee; the security man turned beet red in the face and Dr. Peterson's jaw bounced off his breastbone. Johnny, unable to hold back an explosion of laughter, dashed for the back porch and collapsed.

The kitchen door slammed and Dr. Peterson stamped out on to the porch, pipe clamped between clenched teeth, his face black with anger and frustration. He ignored Johnny who was standing beside the rail wiping tears from his eyes. Culpepper recovered himself and walked over to the irate physicist.

"Dr. Peterson you're a man of science," Johnny said, "and a scientist is supposed to be willing to accept a fact and then, possibly determine the causes behind the fact after he recognizes what he sees. Isn't that so?"

"Now, look here," Peterson angrily swung around to face Johnny. "I've taken all I intend to take from you people with your idiotic story. I don't intend to . . ."

Johnny took the older man by the elbow and gently but firmly propelled him from the porch towards the barn. "I don't intend to either insult your intelligence, Dr. Peterson, or attempt to explain what has happened here. But I do intend to show you what we know."

Bright floodlights illuminated the yard and a crew of soldiers were stringing telephone wires from the guarded front gate across the open space to the ranch house. Beyond the new barbed wire fence, there was an excited stir and rush for the wire as a sharp-eyed newsman spotted Johnny and the scientist crossing the yard. The two men ignored the shouted requests for more up-to-the-minute information as they walked into the barn. Johnny switched on the lights.

The lowing of the two prize Guernseys in the stalls at the right of the door changed to loud, plaintiff bawling as the lights came on. Both cows were obviously in pain from their swollen and unmilked udders.

"Seeing is believing, Doc?" Johnny asked, pointing to the cows.

"Seeing what?" Peterson snapped.

"I knew we were going to have some tall explaining to do when you fellows took over here," Johnny said, "and, of course, I don't blame you one bit. That was some blast Hetty set off out there."

"You don't know," Dr. Peterson murmured fearfully, "you just don't know."

"So," Johnny continued, "I deliberately didn't milk these cows, so that you could see for yourself that we aren't lying. Now, mind you, I don't have the foggiest idea WHY this is happening, but I'm going to show you at least, WHAT happened."

He picked up a pair of milk buckets from a rack beside the door and walked towards the cow stalls, Peterson trailing. "This," Johnny said, pointing to the larger of the two animals, "is Queenie. Her milk is just about as fine as you can get from a champion milk producing line. And this," he reached over and patted the flank of the other cow, "is Sally's Cloverdale Marathon III. She's young and up to now has given good but not spectacular quantities or qualities of milk. She's from the same blood line as Queenie. Sally had dried up from her first calf and we bred her again and on Wednesday she came fresh. Only it isn't milk that she's been giving. Watch!"

Kicking a milking stool into position, he placed a bucket under Queenie's distended bag and began squirting the rich, foaming milk into the pail with a steady, fast and even rhythm. When he had finished, he set the two full buckets with their thick heads of milk foam, outside the stall and brought two more clean, empty buckets. He moved to the side of the impatient Sally. As Peterson watched, Johnny filled the buckets with the same, flat, oily-looking white fluid that Sally had been producing since Wednesday. The scientist began to show mild interest.

Johnny finished, stripped the cow, and then carried the pails out and set them down beside the first two.

"O.K., now look them over yourself," he told Peterson.

The scientist peered into the buckets. Johnny handed him a ladle.

"Look, Culpepper," Peterson said, "I'm a physicist, not a farmer or an agricultural expert. How do you expect me to know what milk is supposed to do? Until I was fifteen years old, I thought the milk came out of one of those spigots and the cream out of another."

"Stir it," Johnny ordered. The scientist took the ladle angrily and poked at the milk in Queenie's buckets.

"Taste it," Johnny said. Peterson glared at the younger man and then took a careful sip of the milk. Some of the froth clung to his lips and he

licked it off. "Taste like milk to me," he said.

"Smell it," Johnny ordered. Peterson sniffed.

"O.K., now do the same things to the other buckets.'

Peterson swished the laddle through the buckets containing Sally's milk. The white liquid swirled sluggishly and oillike. He bent over and smelled and made a grimace.

"Go on," Johnny demanded, "taste it."

Peterson took a tiny sip, tasted and then spat.

"All right," he said, "I'm now convinced that there's something different about this milk. I'm not saying anything is wrong with it because I wouldn't know. All I'm admitting is that it is different. So what?"

"Come on," Johnny took the ladle from him. He carried the buckets of Queenie's milk into the cooler room and dumped them in a small pasturizer.

Then carrying the two pails of Sally's milk, Johnny and the physicist left the barn and went to the shattered remains of the tractor shed.

Fumbling under wrecked and overturned tables and workbenches, Johnny found an old and rusted pie tin.

Placing the tin in the middle of the open spaces of the yard, he turned to Peterson. "Now you take that pail of milk and pour a little into the pan. Not much, now, just about enough to cover the bottom or a little more." He again handed the ladle to Peterson.

The scientist dipped out a small quantity of the white fluid and carefully poured it into the pie plate.

"That's enough," Johnny cautioned. "Now let's set these buckets a good long ways from here." He picked up the buckets and carried them to the back porch. He vanished into the kitchen.

By this time, the strange antics of the two men had attracted the attention of the clamoring newsmen outside the fence and they jammed against the wire, shouting pleas for an interview or information. The network television camera crews trained their own high-powered lights into the yard to add to the brilliance of the military lights and began recording the scene. Dr. Peterson glared angrily at the mob and turned as Johnny rejoined him. "Culpepper, are you trying to make a fool of me?" he hissed.

"Got a match?" Johnny queried, ignoring the question. The pipe-smoking scientist pulled out a handful of kitchen matches. Johnny produced a glass fish casting rod with a small wad of cloth tied to the weighted hook. Leading Peterson back across the yard about fifty feet, Johnny handed the rag to Peterson.

"Smell it," he said. "I put a little kerosene on it so it would burn when it goes through the air." Peterson nodded.

"You much of a fisherman?" Johnny asked.

"I can drop a fly on a floating chip at fifty yards," the physicist said proudly. Johnny handed him the rod

and reel. "O.K., Doc, light up your rag and then let's see you drop it in that pie plate."

While TV cameras hummed and dozens of still photographers pointed telescopic lenses and prayed for enough light, Dr. Peterson ignited the little wad of cloth. He peered behind to check for obstructions and then, with the wrist-flicking motion of the devoted and expert fisherman, made his cast. The tiny torch made a blurred, whipping streak of light and dropped unerringly into the pie plate in the middle of the yard.

The photographers had all the light they needed!

The night turned violet as a violent ball of purple fire reared and boiled into the darkened sky. The flash bathed the entire ranch headquarters and the packed cars and throngs outside the fence in the strange brilliance. The heat struck the dumfounded scientist and young rancher like the suddenly-opened door of a blast furnace.

It was over in a second as the fire surged and then winked out. The sudden darkness blinded them despite the unchanged power of the television and military floodlights still focused on the yard. Pandemonium erupted from the ranks of newsmen and photographers who had witnessed the dazzling demonstration.

Peterson stared in awe at the slightly smoking and warped pie tin. "Well, cut out my tongue and call me Oppenheimer," he exclaimed.

"That was just the milk," Johnny said. "You know of a good safe place we could try it out with one of those eggs? I'd be afraid to test 'em anywhere around here after what happened to Hetty this morning."

An hour later, a military helicopter chewed its way into the night, carrying three gallons of Sally's milk from the ranch to Nellis AFB where a jet stood ready to relay the sealed cannister to the AEC laboratories at Albuquerque.

In the ranch house living room Peterson had set up headquarters and an Army field telephone switchboard was in operation across the room.

An AEC security man was running the board. Hetty had decided that one earthquake a day was enough and had gone to bed. Barney bewildered but happily pleased at so much company, sat on the edge of a chair and avidly watched and listened, not understanding a thing he saw or heard. At the back of the room, Johnny hunched over Big Jim Thompson's roll-top desk, working up a list of supplies he would need to repair the damages from the week's growing list of explosions.

Peterson and three of his staff members were in lengthy consultation at a big table in the middle of the room. The Army field phone at Peterson's elbow jangled.

Across the room, the switchboard operator swung around and called: "It's the commissioner, Dr. Peterson. I just got through to him." Peterson picked up the phone.

"John," he shouted into the instrument, "Peterson here. Where have

you been?" Tinny, audible squawks came from the phone and Peterson held it away from his ear.

"Yes, I know all about it," he said. "Yes . . . yes . . . yes. I know you've had a time with the papers. Yes, I heard the radio. Yes, John, I know it sounds pretty ridiculous. What? Get up to the ranch and find out. Where do you think I'm calling from?"

The squawking rattled the receiver and Peterson winced.

"Look, commissioner," he broke in, "I can't put a stop to those stories. What? I said I can't put a stop to the stories for one reason. They're true."

The only sound that came from the phone was the steady hum of the line.

"Are you there, John?" Peterson asked. There was an indistinct mumble from Washington. "Now listen carefully, John. What I need out here just as quickly as you can round them up and get them aboard a plane is the best team of biogeneticists in the country.

"What? No, I don't need a team of psychiatrists, commissioner. I am perfectly normal." Peterson paused. "I think!"

He talked with his chief for another fifteen minutes. At two other telephones around the big table, his chief deputy and the senior security officer of the task force handled a half dozen calls during Peterson's lengthy conversation. When Peterson hung up, the machinery was in motion gathering the nation's top biochemists, animal geneticists, agricultural and animal husbandry experts and a baker's dozen of other assorted -ists, ready to package and ship them by plane and train to the main AEC facility at Frenchman's Flat and to the Circle T.

Peterson sighed gustily as he laid down the phone and reached for his pipe. Across the table, his assistant put a hand over the mouthpiece of his telephone and leaned towards Peterson.

"It's the Associated Press in New York," he whispered. "They're hotter than a pistol about the blackout and threatening to call the President and every congressman in Washington if we don't crack loose with something."

"Why couldn't I have flunked Algebra Two," Peterson moaned. "No, I had to be a genius. Now look at me. A milkmaid." He looked at his watch. "Tell 'em we'll hold a press conference at 8:00 a.m. outside the ranch gate."

The assistant spoke briefly into the phone and again turned to Peterson. "They say they want to know now whether the milk and egg story is true. They say they haven't had anything but an official runaround and a lot of rumor."

"Tell them we neither deny nor confirm the story. Say we are investigating. We'll give them a formal statement in the morning," Peterson ordered.

He left the table and walked to the desk where Johnny was finishing his list of building supplies.

"What time do you usually get those eggs?" he asked.

"Well, as a rule, Hetty gets out and gathers them up about nine each morning. But they've probably been laid a couple of hours earlier.

"That's going to make us awfully late to produce anything for those babbling reporters," the scientist said.

"Come to think of it," Johnny said thoughtfully, "we could rig up a light in the chicken house and make the hens lay earlier. That way you could have some eggs about four or five o'clock in the morning."

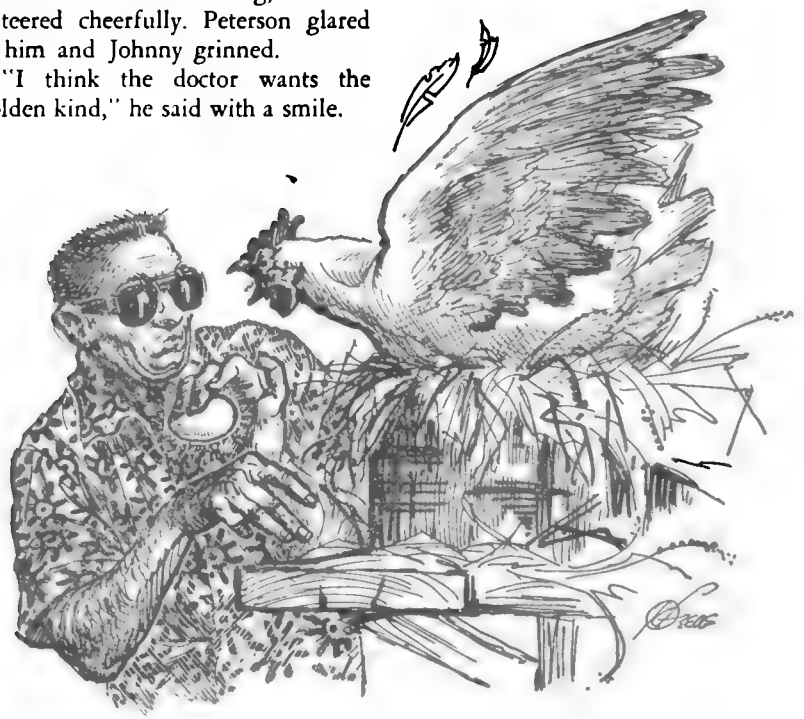
Barney had been listening.

"And them eggs make a mighty fine breakfast of a morning," he volunteered cheerfully. Peterson glared at him and Johnny grinned.

"I think the doctor wants the golden kind," he said with a smile.

"Oh, them," Barney said with a snort of disgust. "They wouldn't make an omelet fit for a hog. You don't want to fuss with them, doc."

Under Johnny's direction, a crew of technicians ran a power line into the slightly-wrecked chicken house. There were loud squawks of indignation from the sleeping hens as the men threaded their way through the nests. The line was installed and the power applied. A one-hundred-fifty-watt bulb illuminated the interior of the chicken house to the discordant



clucking and cackling of the puzzled birds.

Solomon, the big rooster, was perched on a crossbeam, head tucked under his wing. When the light flooded the shed he jerked awake and fastened a startled and unblinking stare at the strange sun. He scrambled hastily and guiltily to his feet and throwing out his great chest, crowed a shrieking hymn to Thomas A. Edison. Johnny chuckled as the technicians jumped at the sound. He left the hen house, went back to the house and to bed.

He set his alarm clock for 4:00 a.m. and dropped immediately into a deep and exhausted sleep.

When he and the sleepy-eyed Peterson went into the chicken house at 4:30, there were eleven of the golden eggs resting on the straw nests.

They turned the remainder of the normal eggs over to Hetty who whipped up a fast and enormous breakfast. While Peterson and Johnny were eating, a writing team of AEC public information men who had arrived during the night, were polishing a formal press release to be given to the waiting reporters at eight. The phones had been manned throughout the night. Peterson's bleary-eyed aide came into the kitchen and slumped into a chair at the table.

"Get yourself a cup of coffee, boy," Hetty ordered, "while I fix you something to eat. How you like your eggs?"

"Over easy, Mrs. Thompson and thanks," he said wearily. "I think I've got everything lined up, doctor. The eggs are all packed, ready to go in your car and the car will be ready in about ten minutes. They're still setting up down range but they should be all in order by the time you get there.

The bio men and the others should be assembled in the main briefing room at range headquarters. I've ordered a double guard around the barn, to be maintained until the animal boys have finished there on-the-ground tests. And they're padding a device van to take Sally to the labs when they're ready.

"And . . . oh yeah, I almost forgot . . . the commissioner called about ten minutes ago and said to tell you that the Russians are going to make a formal protest to the U.N. this morning. They say we're trying to wipe out the People's Republic by contaminating their milk."

The sound of scuffling in the yard and loud yells of protest came through the back porch window. The door swung open and a spluttering and irate Barney was thrust into the room, still in the clutches of a pair of armed security policemen.

"Get your hands offn me," Barney roared as he struggled and squirmed impotently in their grip. "Doc, tell these pistol-packing bellhops to turn me loose."

"We caught him trying to get into the barn, sir," one of the officers told Peterson.

"Of course I was going into the barn," the indignant ranch hand

screamed. "Where'd you think I would go to milk a cow?"

Peterson smiled. "It's all right, Fred. It's my fault. I should have told you Mr. Hatfield has free access.

The security men released Barney. He shook himself and glared at them.

"I'm terribly, sorry, Barney," Dr. Peterson said. "I forgot that you would be going down to milk the cows and I'm glad you reminded me. Do me a favor and milk Sally first, will you? I want to take that milk, or whatever it is, with us when we leave in a few minutes.

The sun was crawling up the side of the mountains when Johnny and Dr. Peterson swung out of the ranch yard between two armored scout cars for the sixty-mile trip down the range road. Dew glistened in the early rays of light and the clear, cool morning air held little hint of the heat sure to come by midmorning. There was a rush of photographers towards the gate as the little convoy left the ranch. A battery of cameras grabbed shots of the vehicles heading south.

It was the beginning of a day that changed the entire foreign policy of the United States. It was also the day that started a host of the nation's finest nuclear physicists tottering towards pyschiatrists' couches.

In rapid order in the next few days, Peterson's crew reinforced by hundreds of fellow scientists, technicians and military men, learned what Johnny Culpepper already knew. They learned that (1) Sally's milk, diluted by as much as four hundred parts of pure water, made a better fuel than gasoline when ignited.

They also learned that (2) in reduced degrees of concentration, it became a substitute for any explosive of known chemical composition; (3) brought in contact with the compound inside one of the golden eggs, it produced an explosive starting at the kiloton level of one egg to two cups of milk and went up the scale but leveled off at a peak as the recipe was increased; (4) could be controlled by mixing jets to produce any desired stream of explosive power; and (5) they didn't have the wildest idea what was causing the reaction.

In that same order it brought (1) Standard Oil stock down to the value of wallpaper; (2) ditto for DuPont; (3) a new purge in the top level of the Supreme Soviet; (4) delight to rocketeers at Holloman Air Force Research Center, Cape Canaveral and Vandenburg Air Force Base; and (5) agonizing fits of hair-tearing to every chemist, biologist and physicist who had a part in the futile attempts to analyze the two ingredients of what the press had labeled "Thompson's Eggnog."

While white-coated veterinarians, agricultural experts and chemists prodded and poked Sally's Clover dale Marathon III, others were giving a similar going-over to Hetty's chicken flock. Solomon's outraged screams of anger echoed across the desert as they subjected him to fowl

indignities never before endured by a rooster.

Weeks passed and with each one new experiments disclosed new uses for the amazing Eggnog. While Sally placidly chewed her cuds and continued to give a steady five gallons of concentrated fury at each milking, Solomon's harem dutifully deposited from five to a dozen golden spheres of packaged power every day. At the same time, rocket research engineers completed their tests on the use of the Eggnog.

In the early hours of June 4th, a single-stage, two-egg, thirty-five- gallon Atlas rocket poised on the launching pads at Cape Canaveral. From the loud-speaker atop the massive blockhouse came the countdown.

"X minus twenty seconds. X minus ten seconds. Nine . . . eight . . . seven . . . six . . . five . . . four . . . three . . . two . . . FIRE!"

The control officer stabbed the firing button and deep within the Atlas a relay clicked, activating a solenoid that pushed open a valve. A thin stream of Sally's milk shot in from one side of the firing chamber to blend with a fine spray of egg batter coming from a jet in the opposite wall.

Spewing a solid tail of purple fire, the Atlas leaped like a wasp-stung heifer from the launching pads and thundered into space. The fuel orifices continued to expand to maximum pre-set opening. In ten seconds the nose cone turned from cherry-red to white heat and began sloughing its outer ceramic coating. At slightly more than forty-three thousand miles an hour, the great missile cleaved out of atmosphere into the void of space, leaving a shock wave that cracked houses and shattered glass for fifty miles from launching point.

A week later, America's newest rocket vessel, weighing more than thirty tons and christened *The Egg Nog*, was launched from the opposite coast at Vandenburg. Hastily modified to take the new fuel, the weight and space originally designed for the common garden variety of rocket fuel was filled with automatic camera and television equipment. In its stern stood a six-egg, one-hundred-gallon engine, while in the nose was a small, one-egg, fourteen-quart braking engine to slow it down for the return trip through the atmosphere.

Its destination—Mars!

A week later, *The Eggnog* braked down through the troposphere, skidded to a piddling two-thousand miles an hour through the stratosphere, automatically sprouted gliding wing stubs in the atmosphere and planed down to a spraying halt in the Pacific Ocean, fifty miles west of Ensenada in Baja, California. Aboard were man's first views of the red planet.

The world went mad with jubilation. From the capitals of the free nations congratulations poured into Washington. From Moscow came word of a one-hundred-ton spaceship to be launched in a few days, powered by a mixture of vodka and orange juice discovered by a bartender in Novorosk who was studying

chemistry in night school. This announcement was followed twenty-four hours later by a story in *Pravda* proving conclusively that Sally's Cloverdale Marathon III was a direct descendant of Nikita's Mujik Droshky V, a prize Guernsey bull produced in the barns of the Sopolov People's Collective twenty-six years ago.

Late in August, Air Force Major Clifton Wadsworth Quartermain climbed out of the port of the two-hundred-ton, two dozen-egg, two-hundred-thirty-gallon space rocket *Icarus,* the first man into space and back. He had circled Venus and returned. No longer limited by fuel weight factors, scientists had been able to load enough shielding into the huge *Icarus* to protect a man from the deadly bombardment of the Van Allen radiation belts.

On September 15th, Sally's Cloverdale Marathon III, having been milked harder and faster than any Guernsey in history, went dry.

Less than half of the approximately twelve-hundred gallons of fuel she had produced during her hay days, remained on hand in the AEC storage vaults.

Three days later, Solomon, sprinting after one of his harem who was playing hard to get, bee-lined into the path of a security police jeep. There was an agonized squawk, a shower of feathers and mourning. A short time later, the number of golden eggs dropped daily until one morning, there were none. They never reappeared. The United States had stockpiled twenty-six dozen in an underground cave deep in the Rockies.

Man, who had burst like a butterfly into space, crawled back into his cocoon and pondered upon the stars from a worm's eye point of view.

Banging around in the back end of a common cattle truck, Sally's Cloverdale Marathon III came home to the Circle T in disgrace. In a corner of the truck, the late Solomon's harem cackled and voiced loud cries of misery as they huddled in the rude, slatted shipping coop. The truck turned off the county road and onto the dirt road leading to the main buildings. It rattled across the cattle guard and through the new-unprotected and open gate in the barbed wire fence. Life had returned almost to normal at the Circle T.

But not for long.

Five days after Sally's ignominious dismissal from the armed forces, a staff car came racing up to the ranch. It skidded to a halt at the back-porch steps. Dr. Peterson jumped out and dashed up to the kitchen door.

"Well, for heaven's sake," Hetty cried. "Come on in, sonny. I ain't seen you for the longest spell."

Peterson entered and looked around.

"Where's Johnny, Mrs. Thompson?" he asked excitedly. "I've got some wonderful news."

"Now ain't that nice," Hetty exclaimed. "Your wife have a new baby or something? Johnny's down at the barn. I'll call him for you." She moved towards the door.

"Never mind," Peterson said, darting out the door, "I'll go down to the barn." He jumped from the porch and ran across the yard.

He found Johnny in the barn, rigging a new block and tackle for the hayloft. Barney was helping thread the new, manila line from a coil on the straw-littered floor.

"Johnny, we've found it," Peterson shouted jubilantly as he burst into the barn.

"Why, Doc, good to see you again," Johnny said. "Found what?"

"The secret of Sally's milk," Peterson cried. He looked wildly around the barn. "Where is she?"

"Who?"

"Sally, of course," the scientist yelped.

"Oh, she's down in the lower pasture with Queenie," Johnny replied.

"She's all right, isn't she?" Peterson asked anxiously.

"Oh, sure, she's fine, Doc. Why?"

"Listen," Peterson said hurriedly, "our people think they've stumbled on something. Now we still don't know what's in those eggs or in Sally's milk that make them react as they do. All we've been able to find is some strange isotope but we don't know how to reproduce it or synthesize it.

"But we do think we know what made Sally give that milk and made those hens start laying the gold eggs."

Johnny and Barney laid down their work and motioned the excited scientist to join them on a bench against the horse stalls.

"Do you remember the day Sally came fresh?" Peterson continued.

"Not exactly," Johnny replied, "but I could look it up in my journal. I keep a good record of things like new registered stock births."

"Never mind," Peterson said, "I've already checked. It was May 9th."

He paused and smiled triumphantly.

"I guess that's right if you say so," Johnny said. "But what about it?"

"And that was the same day that the hens laid the first golden egg too, wasn't it?" Peterson asked.

"Why it sure was, Doc," Barney chimed in. "I remember, cause Miz Thompson was so mad that the milk was bad and the eggs went wrong both in the same day."

"That's what we know. Now listen to this, Johnny," the scientist continued. "During the night of May 8th, we fired an entirely new kind of test shot on the range. I can't tell you what it was, only to say that it was a special atomic device that even we didn't know too much about. That's why we fired it from a cave in the side of a hill down there.

"Since then, our people have been working on the pretty good assumption that something happened to that cow and those chickens not too long before they started giving the Eggnog ingredients. Someone remembered the experimental test shot, checked the date and then went out and had a look at the cave. We already had some earlier suspicions that this de-

vice produced a new type of beam ray. We took sightings from the cave, found them to be in a direct, unbroken line with the Circle T. We set up the device again and using a very small model, tried it out on some chick embryos. Sure enough, we got a mutation. But not the right kind.

"So we're going to recreate the entire situation right here, only this time, we're going to expose not only Sally but a dozen other Guernseys from as close to her blood line as we can get.

"And we already knew that you had a young rooster sired by Solomon."

"But, Doc," Johnny protested. "Sally had a calf early that morning. Isn't that going to make a difference?"

"Of course it is," Peterson exclaimed. "And she's going to have another one the same way. And so are all the other cows. You're the one that told me she had her calf by artificial insemination, didn't you?"

Johnny nodded.

"Well, then she's going to have another calf from the same bull and so will the other cows."

"Pore Sally," Barney said sorrowfully. "They're sure takin' the romance outta motherhood for you."

The next day the guards were back on the gate. By midafternoon twelve fine young Guernseys arrived, together with a corps of veterinarians, biologists and security police. By nightfall, Sally and her companions were all once again in a "delicate condition."

A mile from the ranch house, a dormitory was built for the veterinarians and biologists and a barracks thrown up for the security guards. A thirty-five thousand dollar, twelve-foot high chain link fence, topped by barbed wire, was constructed around the pasture and armored cars patrolled the fence by day and kept guard over the pregnant bovines by night in the barn.

Through the fall, into the long winter and back to budding spring again, the host of experts and guards watched and cared for the new calf-bloated herd.

The fact that Sally had gone dry had been kept a carefully guarded national secret. To keep up the pretense and show to the world that America still controlled the only proven method of manned space travel, the Joint Chiefs of Staff voted to expend two hundred gallons of the precious, small store of milk on hand for another interplanetary junket, this time to inspect the rings around Saturn.

Piloting a smaller and more sophisticated but equally-well protected version of *Icarus,* Major Quartermain abandoned the fleshpots of earth and the adulation of his coast-to-coast collection of worshiping females to again hurtle into the unknown.

"It was strictly a milk run," Major Quartermain was quoted as saying as he emerged from his ship after an uneventful but propaganda-loaded trip.

By the middle of May, it was the consensus of the veterinarians that Delivery Day would be July 4th. Plans were drafted for the repeat atomic cave shot at 9:00 p.m., July 3rd. The pregnant herd was to be given labor-inducing shots at midnight, and, if all went well, deliveries would start within a few hours. Just to be sure that nothing would shield the cows from the rays of the explosion, they were put in a corral on the south side of the barn until 9:30 p.m., on the night of the firing.

Solomon's successor and a new bevy of hens were already roosting in the same old chicken house and egg production was normal.

On the night of July 3rd, at precisely 9:00 p.m., a sheet of light erupted from the Nevada hillside cave and the ground shook and rumbled for a few miles. It wasn't a powerful blast, nor had been the original shot. Sixty miles away, thirteen Guernsey cows munched at a rick of fresh hay and chewed contentedly in the moonlight.

At 3:11 a.m., the following morning the first calf arrived, followed in rapid order by a dozen more.

Sally's Cloverdale Marathon III dropped her calf at 4:08 a.m. on Independence Day.

At 7:00 a.m., she was milked and produced two and a half gallons of absolutely clear, odorless, tasteless and non-ignitable fluid. Eleven other Guernseys gave forth gushing, foaming, creamy rich gallon after gallon of Grade A milk.

The thirteenth cow filled two buckets with something that looked like weak cocoa and smelled like stale tea.

But when a white-smocked University of California poultry specialist entered the chicken house later in the morning, he found nothing but normal, white fresh eggs in the nests. He finally arrived at the conclusion that Solomon's old harem had known for some time; whatever it was that Solomon had been gifted with, this new rooster just didn't have it.

A rush call went out for a dozen of the precious store of golden eggs to be sent to the testing labs down range.

Two hours later, Dr. Peterson, surrounded by fellow scientists, stood before a bank of closed circuit television monitors in the Frenchman's Flat headquarters building. The scene on the screens was the interior of a massive steel-and-concrete test building several miles up range. Resting on the floor of the building was an open, gallon-sized glass beaker filled with the new version of Sally's milk.

Poised directly above the opened beaker was a funnel-shaped vessel containing the contents of one golden egg.

Dr. Peterson reached for a small lever. By remote control, the lever would gradually open the bottom of the funnel. He squeezed gently, slowly applying pressure. An involuntary gasp arose from the spectators as a tiny trickle of egg fluid fell from the funnel towards the open beaker.

Instinctively, everyone in the room clamped their eyes shut in anticipa-

tion of a blast. A second later, Peterson peered cautiously at the screen. The beaker of milk had turned a cloudy pale blue. It neither fizzed nor exploded. It just sat.

He levered another drop from the funnel. The stringy, glutenous mass plopped into the beaker and the liquid swirled briefly and turned more opaque, taking on more of a bluish tinge.

A babble of voices broke through the room when it was apparent that no explosion was forthcoming.

Peterson slumped into a nearby chair and stared at the screen.

"Now what?" he moaned.

The "what" developed twelve hectic hours later after time lost initially in shaking, bouncing and beaming the new substance on the outside chance it might develop a latent tendency towards demolition.

Satisfied that whatever it was in the beaker wasn't explosive, the liquid was quickly poured off into sixteen small half-pint beakers and speeded to as many different laboratories for possible analysis.

"What about the other stuff?" Peterson was asked, referring to the brownish "milk" subsequently identified as coming from a dainty young cow known as Melody Buttercup Greenbrier IV.

"One thing at a time," replied Peterson. "Let's find out what we have here before we got involved in the second problem."

At 9:00 p.m., that night, Peterson was called to the radiation labs. He was met at the door by a glazed-eyed physicist who led him back to his office.

He motioned Peterson to a seat and then handed him a sheaf of photographic papers and other charts. Each of the photo sheets had a clear, white outline of a test beaker surrounded by a solid field of black. Two of the papers were all white.

"I don't believe it, Floyd," the physicist said, running his hands through his hair. "I've seen it, I've done it, I've tested it, proven it, and I still don't believe it."

Peterson riffled the sheaf of papers and waited expectantly.

"You don't believe what, Fred?" he asked.

The physicist leaned over and tapped the papers in Peterson's hands. "We've subjected that crazy stuff to every source and kind of high and low energy radiation we can produce here and that means just about everything short of triggering an H-device on it. We fired alphas, gammas, betas, the works, in wide dispersion, concentrated beam and just plain exposure.

"Not so much as one neutron of any of them went beyond the glass surrounding that forsaken slop.

"They curved around it, Floyd. They curved around it."

The physicist leaned his head on the desk. "Nothing should react like that," he sobbed. He struggled for composure as Peterson stared dazedly at the test sheets.

"That's not the whole story," the physicist continued. He walked to

Peterson's side and extracted the two all-white sheets.

"This," he said brokenly, "represents a sheet of photographic paper dipped in that crud and then allowed to dry before being bombarded with radiation. And this," he waved the other sheet, "is a piece of photo paper in the center of a panel protected by another sheet of ordinary typing paper coated with that stuff."

Peterson looked up at him. "A radiation-proof liquid," he said in awed tones.

The other man nodded dumbly.

"Eight years of university," the physicist whispered to himself. "Six years in summer schools. Four fellowships. Ten years in research.

"All shot to hell," he screamed, "by a stinking, hayburning cow."

Peterson patted him gently on the shoulder. "It's all right, Fred. Don't take it so hard. It could be worse."

"How?" he asked hollowly. "Have this stuff milked from a kangaroo?"

Back in his office, Peterson waved off a dozen calls while he gave orders for fresh quantities of the blue milk to be rushed to the Argonne laboratories for further radiation tests and confirmation of the Nevada results. He ordered a test set up for the brown fluid for the following morning and then took a call from the AEC commissioner.

"Yes, John," he said, "we've got something."

Operation Milkmaid was in full swing!

The following morning observers again clustered about the monitoring room as Peterson prepared to duplicate the tests, using a sample of the Melody's brownish milk.

There was the same involuntary remote cringing as the first drop of egg fell towards the beaker, but this time, Peterson forced himself to watch. Again the gentle plop was heard through the amplifiers and nothing more. A similar clouding spread through the already murky fluid and when the entire contents of one egg had been added, the beaker took on a solid, brown and totally opaque appearance. The scientists watched the glass container for several minutes, anticipating another possible delayed blast.

When nothing occurred, Peterson nodded to an assistant at an adjoining console. The aide worked a series of levers and a remotely-controlled mechanical arm came into view on the screen. The claw of the arm descended over the beaker and clasping it gently, bounced it lightly on the cement bunker floor. The only sound was the muffled thunk of the glass container against the concrete.

The assistant wiggled his controls gently and the beaker jiggled back and forth, a few inches off the floor.

Peterson, who had been watching closely, called out. "Do that again."

The operator jostled the controls. "Look at that," Peterson exclaimed. "That stuff's hardened."

A quick movement confirmed this and then Peterson ordered the beaker raised five feet from the floor and slowly tipped. Over the container

went as the claw rotated in its socket. The glass had turned almost 180° towards the floor when the entire mass of solidified glob slid out.

The watchers caught their breath as it fell to the hard floor. The glob hit the floor, bounced up a couple of inches, fell back, bounced again and then quivered to a stop. What was soon to be known as Melody's Mighty Material had been born.

The testing started. But there was a difference. By the time the brown chunk had been removed from the bunker it had solidified to the point that nothing would break or cut it. The surface yielded slightly to the heaviest cutting edge of a power saw and then sprang back, unmarked. A diamond drill spun ineffectually.

So the entire block started making the rounds of the various labs. It was with downright jubilation that radiation labs reported no properties of resistance for the stuff. One after the other, the test proved nothing until the physical properties unit came up with an idea.

"You can't cut it, break it or tear it," the technician told Peterson, as he hefted the chunk of lightweight enigma. "You can't burn it, shoot holes in it, or so much as mark the surface with any known acid. This stuff's tougher than steel and about fifty times lighter.'

"O.K.," Peterson asked, "so what good is it?"

"You can mold it when you mix it," the technician said significantly.

"Hey, you're right," Peterson jumped up excitedly. "Why, a spacer cast out of this stuff and coated with Sally's paint would be light enough and shielded enough to work on regular missile fuels."

Working under crash priorities, the nation's three leading plastics plants turned out three, lightweight, molded, one-man space vehicles from the government-supplied Melody's Mix. A double coating of Sally's Paint then covered the hulls and a single stage liquid fuel rocket engine was hooked to the less-than-one-ton engineless hull.

Twenty-eight days after the milk first appeared, on a warm August evening, the first vehicle stood on the pads at Cape Canaveral, illuminated by towers of lights. Fuel crews had finished loading the tanks which would be jettisoned along with the engine at burn-out. Inside the rocket, Major Quartermain lounged uncomfortably and cramped in the take-off sling for a short but telling trip through the Van Allen radiation fields and back to Earth.

The take-off sling rested inside an escape capsule since the use of chemical fuel brought back many of the old uncertainties of launchings. On the return trip, Quartermain would eject at sixty thousand feet and pull the capsule's huge parachute for a slow drop to the surface of the Atlantic where a recovery fleet was standing by. The light rocket hull would pop a separate chute and also drift down for recovery and analysis.

Inside the ship, Quartermain sniffed the air and curled his nose. "Let's

get this thing on the road," he spoke into his throat mike. "Some of that Florida air must have seeped in here."

"Four minutes to final countdown," blockhouse control replied. "Turn on your blowers for a second."

Outside the ship, the fuel crews cleared their equipment away from the pad. The same ripe, heavy odor hung in the warm night air.

At 8:02 p.m., twenty-eight days after the new milks made their first appearance, Major Quartermain blasted off in a perfect launching.

At 8:03 p.m., the two other Melody Mix hulls standing on nearby pads, began to melt.

At 8:04 p.m., the still-roaring engine fell from the back end of Quartermain's rocket in a flaming arc back towards Earth. Fifteen seconds later, he hurtled his escape capsule out of the collapsing rocket hull. The parachute opened and the daring astronaut drifted towards the sea.

Simultaneously, in a dozen labs around the nation, blocks and molds of Melody's Mix made from that first batch of milk, collapsed into piles of putrid goo. Every day thereafter, newer blocks of the mix reached the twenty-eight-day limit and similarly broke down into malodrous blobs.

It was a month before the stinking, gooey mess that flowed over the launching pads at the Cape was cleaned up by crews wearing respirators and filter masks. It took considerably longer to get the nation's three top plastics firms back in operation as the fetid flow of unfinished rocket parts wrecked machinery and drove personnel from the area.

The glob that had been Quartermain's vehicle fell slowly back to Earth, disintegrating every minute until it reached the consistency of thin gruel. At this point, it was caught by a jet air stream and carried in a miasmic cloud halfway around the world until it finally floated down to coat the Russian city of Urmsk in a veil of vile odor. The United States disclaimed any knowledge of the cloud.

"LAS VEGAS, NEV., May 8 (AP)-The Atomic Energy Commission today announced it has squeezed the last drop from Operation Milkmaid.

"After a year of futile experimentation has failed to get anything more than good, Grade A milk from the world's two most famous cows, the AEC says it has closed down its field laboratory at the Circle T ranch.

"Dr. Floyd Peterson, who has been in charge of the attempt to again reproduce Sally's Milk, told newsmen that the famed Guernsey and her stablemate, Melody, no longer gave exotic and unidentifiable liquids that sent man zooming briefly to the stars.

" 'For a while, it looked like we had it in the bag,' Peterson said. 'You might say now, though, that the tests have been an udder failure.'

"Meanwhile, in Washington, AEC commissioner . . ."

THE END

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BY P. SCHUYLER MILLER

TINKERING

THE trade of tinkering has a long — if not always honorable — tradition in England. I would not be surprised to hear from some pundit that these itinerant jacks-of-all-trades could be traced back, in their origins, to the wandering smiths of the Bronze and Early Iron Ages. Setting aside the calumnies that accumulate around any band of strangers tinkers have come down through the centuries as men who can fix just about anything.

Somewhere along the line, however, the word has picked up another connotation. I supposed it was an Americanism, until I found it firmly established in the "Oxford Dictionary" and not given a side-glance in Mathews' "Dictionary of Americanisms." In my own late-Victorian-survival, upstate-New York rural boyhood, "tinkering" meant fooling around with something you didn't understand and hadn't the sense to leave for someone who did.

Among science-fiction authors, and

in their professional journals — yes, there is one—there is a continuing lament that too many editors are tinkers of the second kind. The argument has come to a head over Robert Sheckley's novel, published in *Galaxy* as "Time Killers" in 1958-'59, then by Avalon as "Immortality Delivered," and now by Bantam as "Immortality, Inc." (No. A-1991; 152 pp; 35¢). As I told you when the hardback edition came out, Sheckley considers this final paperback edition *the* complete and correct version of his book, as he wanted to write it.

The physical details of editing manuscripts are something that even the most wide-eyed poet can hardly rant away. There are limitations of page size and type size, and you can get just so many letters and spaces and punctuation marks on a line. I spend eight hours a day in a job where copy—primarily descriptions of new laboratory instruments and what they will do—is all written to fit: so many lines, with so many characters to a line. If something has to be added, something else has to come out. To a degree, all editors are involved in this kind of horse-work. The varying length of this department is one mechanism that helps John Campbell fit the stories and articles he has into the one hundred eighty pages—no more, no less—he has to fill.

The creative side of editing is something far different. Here we're talking about the aspect of "tinkering" that, on my analogy, converted Europe from the Stone to the Metal Age—that creates literature, as those roving smiths of thousands of years ago created a civilization.

It is no secret that John Campbell is this kind of editor. He made Astounding the magazine it is, and shaped modern science fiction with it. Before him, Hugo Gernsback had given form to the science-fiction movement, and before that Bob Davis of the Munsey magazines and Farnsworth Wright at *Weird Tales* were exerting a positive force to shape the field of writing we have today. Right now, the editors of all the top and some of the lesser science-fiction and fantasy magazines are functioning in this positive sense. It is because they don't slide along on a *laissez faire* basis, printing what shows up in the mail, that they are always under fire from some segment of fandom. They've created magazines that readers care about, and when something seems to be wrong, the editor is blamed first—not the writer.

The classic example of creative editing comes from outside the science-fiction field, from the man who may have been the most untrammeled of modern writers, Thomas Wolfe. In a little book called "The Story of a Novel" Wolfe described the process by which one of the truly great editors, the late Maxwell Perkins of Scribner's, helped him hew his massive novel, "Of Time and the River," out of a million and a half sprawling, unconnected words and scenes and conversations that it had taken him four years and more to write. The opening scene of his

original manuscript—a train driving at night across Virginia—had run to a hundred thousand words, or double the length of the average present-day novel. One minor conversation was almost as long. Yet out of all this Perkins helped Wolfe shape one of the major novels of our era.

And there is the key to the dispute that is raging over books like Sheckley's "Immortality, Inc." Perkins, the editor, *helped*—he didn't take over. He argued, persuaded, reasoned, probably pleaded with the gigantic young man whose "intemperate excess"—to use his own words—would not be curbed. This is how John Campbell has helped many a writer form a slick gimmick into a memorable story. This is how a good editor works, though it takes an unconscionable amount of time and patience.

And then there is the other kind of tinkering—the editing that is all too often done without the author's co-operation or even knowledge, and frequently in spite of all he has been trying to say. This is why Robert Sheckley is right, and "Immortality, Inc." is a far better book for thirty-five cents than "Immortality Delivered" was for $2.75.

If you're interested only in what happens in the plot, maybe you'll see no difference, but I don't think Astounding has many readers of that kind. The bowdlerizing of children's books, and the "abridged for modern readers" editions of books too long for the printing budget, go on because that *is* enough for many readers. In the ultimate you get the comics.

From what I've been told, Avalon got in trouble because of a copy-fitting situation. They have two hundred twenty-four pages to fill, and they do it by cutting anything that's longer. Sometimes the author does his own cutting; in Sheckley's case, he didn't —and whoever did the job instead left pretty bare bones. The Bantam edition puts back all or most of the flesh.

Take the opening scene. In the full version it acquaints us with the hero, Thomas Blaine—sketches his philosophy and a little of his background —makes him a real and interesting person around whom the action can plausibly revolve. In the cut version there is only a name and the bare action: the detail that makes Blaine come alive has been hacked out and thrown away. And, by and large, this is what has happened all through the book—it has been thinned out, as a forester might thin out a crowded plantation of pines. Trouble is, the pines go on to grow into big timber, while the book continues to look—and be—straggly and scrawny.

Robert Sheckley, as you know, is not primarily a "plot" man, although he has an unusual one in this case: a future in which the immortality of human personality has been scientifically demonstrated, and can be controlled. With loving care he built up a society based on the exploitation of this discovery, and a plot centering on a Twentieth Century man snatched into the Twenty-second and forced to cope with what he finds there. There

is plenty of bizarre color, plenty of action, plenty of suspense in both versions, but Avalon whittled the book down to the plot alone, while Bantam has—to really muddle a metaphore—retained the woof that adds all the color and richness to the bare framework of the warp.

Another example: late in the book, Blaine is snatched out of danger by a process called "transplant," in which his mind or personality is moved from body to body across the country. In the complete novel, Sheckley used this short section to give us a series of flashing vignettes of the world of 2110, rounding out the picture of the society and the people shaped by it. In the Avalon version, the action alone remains: Blaine travels like a bouncing ball.

Most important, the ending was rewritten to completely change the author's meaning. The hardback version terminates in a blaze of routine heroism, with Blaine dying, back to the wall, "like a man." But the original—the real—ending gave meaning to the whole society Sheckley had so carefully constructed. "Men no longer died," Blaine realized; "they moved on." And he, too, moved on, to fulfill his destiny. Presumably the change was made because "our" society condemns suicide, and the publisher or editor wanted the book to conform. In so doing, he robbed the novel of its integrity and consistency, because Sheckley has shown a society in which suicide had a purpose.

How much of this kind of editing an author has to take is his concern, but it is also ours as readers. Science fiction is a field in which rich detail is all-important, and when that detail is stripped away from a book, whether to shorten it or to satisfy taboos, we are losing something. To be extreme, it's sometimes like paying to see a full-length movie, and getting only the trailer.

I'm not saying, either, that the author is always the best judge of what is good. As I've said, I think the original "Lensman" serials here in Astounding were better than "Doc" Smith's book versions, because he destroyed much of the mystery and suspense in filling in the cosmic drama in which the books were episodes. I had enough trouble getting through Wright's "Islandia," without having to read the enormous uncut chronicle from which it was edited down by the author's daughter—yet I wish that uncut version had not been lost, because the details in "Islandia" are the best part of the book, and hundreds of them are now lost forever.

The problem isn't always cutting: it may be addition by someone other than the author. Some editors do a great amount of personal rewriting. The paperback publishers who have taken over the Galaxy Novels are demanding permission to interpolate sexy scenes in the books they reprint. Some s-f writers are granting them that right; some are doing the job themselves; some insist on approving any changes made; some, I suppose, have refused.

"Caveat lector"—let the reader beware.

SF: THE YEAR'S GREATEST SCIENCE-FICTION AND FANTASY, edited by Judith Merril. Dell Publishing Co., No. B-129. 256 pp. 35¢

The Gnome Press hardbound edition of this annual selection—the fourth in the series—should have been out early in the summer. Its title, "SF: 59," will be more accurate than that of the paperback, since Judith Merril has never pretended that her selections are "great," let alone the "greatest." Enough that they are good, varied, well-balanced, and from a variety of sources that most readers may have missed. Two of the fifteen were first published here in Astounding.

In any Merril selection, including both science fiction and unabashed fantasy, it's hard to pick a favorite, but I'll nominate mine right on the fence: Fritz Leiber's unforgettable and already much-reprinted story of a super-kitten that would have become a man if duty hadn't blocked its destiny. "Space-Time for Springers" is one of those stories that will stick in readers' memories. So will R. M. McKenna's "Casey Agonistes," a compassionate story about an imaginary ape that brought life to a ward for the dying.

Of the straight science fiction, my choice is the opening story in the book, Carol Emshwiller's "Pelt." A dog and a man, hunting on a beautiful, frosty world, kill a thing that is more than a thing. And there's Rog Phillips' "The Yellow Pill," from this magazine, a tantalizing puzzle of reality and unreality, and the second selection from Astounding, "Triggerman," by J. F. Bone, which presents the terrible dilemma of the General whose duty it is to push the button that ends the world we know. Another story of a choice is Theodore Thomas' "Satellite Passage," in which American and Russian satellites, passing in space, prepare to destroy each other.

Since fantasy is permitted here, we have very good, off-beat, rather fantastic fantasy: Richard Gehman's "Hickory, Dickory, Kerouac" from *Playboy*, for example, with its beatnik mouse; E. C. Tubb's "Fresh Guy," from the British *Science Fantasy*, in which a glum crew of ghouls and vampires wait on a shattered Earth for the return of men; or John Steinbeck's mocking "Short-Short Story of Mankind," from the cave to the grave, also from *Playboy*. And there's Avram Davidson's "Or All the Seas With Oysters," in which bicycles begin to breed, and Gerald Kersh's report in the *Saturday Evening Post* on the telepathic nuts to be found on the "River of Riches," somewhere up the Amazon. Arthur Zirul's short fable, "The Beautiful Things," poses the problem of what bears will consider beauty in an age when men are kept in cages.

Two more stories, both SF, are left. From the zooming British writer, Brian W. Aldiss, we have "Ten-Story Jigsaw," reprinted from the Scottish SF magazine, *Nebula*. In it Australian wreckers pick over the debris of Sydney after World War

III. And from Theodore Sturgeon, "The Comedian's Children," typically Sturgeon but with more plot than most of his recent stories.

The book closes with a short fact section—three articles—and Miss Merril's annual summary of the best SF and fantasy reading. Daniel Lang's "Man in Space," from the *New Yorker,* describes our preparations for the great first step. Judith Merril's "Rockets to Where?" then asks where we're going—and why. Finally, Isaac Asimov, in "The Thunder-Thieves," chronicles the lamentable taking over of science-fictional concepts and inventions by today's research-and-development management.

THE IVADERS ARE COMING, by Alan E. Nourse & J. A. Meyer. Ace Books, New York. No. D-366. 1959. 224 pp. 35¢.

This long—for a paperback—novel of action and intrigue gets better as it goes along. What starts as a fairly routine plot-and-counterplot situation, with a rather transparent "secret," develops into a novel of character and of the machinations of Big Government, not at all unlike the best-selling "Advise and Consent," on which I have commented elsewhere.

America's race for Space has ended in the 1990s with utter economic collapse. In reaction, the country and the government have turned bitterly against Space and against the physical sciences. Sociology and psychology, coming into their own, have decreed and shaped a stable and completely regimented society in which war is unthinkable and any sign of initiative is ruthlessly stamped out. Meanwhile British Intelligence — BRINT—has regained England's traditional position of balance-pole for the world, by renting a fleet of intercontinental missiles with which they can enforce the peace on both East and West.

But BRINT, among others, dreads the effects of stagnation, and starts an underground movement to force Man back into Space. They need a strong leader, and he is found in Julian Bahr, a misfit and maverick who has finagled himself high in the DIA, the Department of Internal Affairs. The book is the story of Bahr's violent rise to almost supreme power, against the violent opposition of the system and the individuals he is displacing. It is also the story of the plotters' realization that they must find a way to control or destroy the juggernaut they have created, and the impersonal brutality with which they do it. Before the book ends, you are with Julian Bahr in his battle against insuperable odds, to get a new fleet into Space to block the Invaders who are callously raiding Earth's best-guarded projects—and against him for the ruthlessness with which he tramples down anyone in his way. You feel with him the psychological torment that drives him—realize that the DEPCO's brain-twisters are right in their contention that no such near-

psychopath should have power over the country—and resent their smug assumption that any spark of initiative is to be brain-washed out of existence.

It's a fine, complex hooraw before it's over, and so far have the authors departed from the old black vs. white formula that there isn't a character who isn't as speckled as a Plymouth Rock hen.

THE FOURTH "R" by George O. Smith. Ballantine Books No. 316K. 1959. 160 pp. 35¢.

To a communications specialist like George O. Smith, it must be frustrating to see the clumsiness of the inept communication between adults and children that we call education. In this book he has devised a solution, then shown its shortcomings with far more perceptiveness than many current critics of the schools are demonstrating.

James Quincy Holden is five when his parents are murdered by their best friend, while James cowers in the brush. They have devised a teaching machine that duplicates and amplifies the electrical and chemical changes which learning makes in the brain cells, and Jimmy is their guinea pig—a five-year-old with a mind crammed well beyond high-school level. Paul Brannan wants the machine for himself, so he arranges their death in a car crash, administers the *coups de grace* personally, and would have made the score complete by wringing Jimmy's neck or bashing in his young skull if a blundering bystander hadn't happened along.

It is not very surprising that Jimmy runs away, after wrecking the machine whose details exist only in his own head. The book deals with his attempts to find an independent place for himself in the adult world—"in hiding" as the Wilmar Shiras story put it—and to bring Brannan to justice. He is a kind of cross between "Odd John" and the super-children of the Shiras stories, but is never as real as Stapledon's mutant or as believable as the "children of the atom." Even so, the reader learns in the end the lesson that Jimmy is to learn by experience, that an education is more than a brain crammed with facts. Admiral Rickover, please note.

NO TIME LIKE TOMORROW, by Brian Aldiss. Signet Books, N. Y. No. S-1683. 1959. 160 pp. 35¢

Although no "new" writer earned enough votes to earn himself a Hugo at the Detention, Brian Aldiss ranged far enough ahead of the pack to be awarded a special plaque. As Literary Editor of the *Oxford Mail,* he presumably has to live up to his own critical standards—and he has. Over here, he's been represented by some shorts in the magazines, a share in a few Ace "doubles," and the novel "Starship." Now Signet has taken six of the stories from his English short-story collection. "Space, Time and

Nathaniel," and matched them with six others.

For the collectors' record, the six stories which were also in "S, T & N" —authority of Donald Tuck's frequently fallible "Handbook"—are: "T," "Our Kind of Knowledge," "Psychlops," "Not for an Age," "The Failed Men," and "Outside." Additions are his showy little stopper, "Poor Little Warrior!", "Carrion Country," "Judas Danced," "Gesture of Farewell," "Blighted Profile," and "The New Father Christmas."

There is a similarity to Bradbury here, in that Aldiss sometimes lets style carry the load for a trite old plot or gimmick, which admittedly he freshens in the process. "Starship" was the ship-of-generations made new. "Poor Little Warrior!" is the time - traveler-who-shoots-a-dinosaur, glibly told, deliberately packed with shock-images, and properly gimmicked at the end. Match it against Bradbury's "A Sound of Thunder," and tell me who wins: Aldiss with his legitimate gimmick, or Bradbury with his threadbare one—though it was novel enough for *Collier's*. SF writing classes could do worse than analyze these two stories, together with Sprague de Camp's realistic treatment of the same theme, whose name and location I shamefully can't recall or find without the still undelivered second Day "Index."

But back to this compendium. Two are plot-tales of the colonization of other planets. "Carrion Country" is built around a gimmick that would once have made it a natural for this magazine, and "Jesture of Farewell" describes the reconstruction of a grimly ruined world, and the vengeance of its one-time rulers. "T" is another vengeance story—intergalactic, this time—with Earth saved by a pretty far-fetched twist.

Like Bradbury and others of his team—Sheckley, Matheson, et al—Aldiss does well with wryly twisted glimpses of the future. In "Not for an Age," a university professor who is caught up in a future civilization's temporal peep-show is snatched into that era when a fuse blows. In "The Failed Men," defeated members of an intertemporal Red Cross mission struggle to understand the incomprehensible causes of their race's collapse. "Judas Danced" is a horrible little vision of a time when psychotic murderers are executed—then resurrected by time-grab, in the fond hope that the memory of their death will prevent their repeating their crime. "Blighted Profile" gives us an old man's memories and a child's cruel innocence on a raddled Earth. "The New Father Christmas" takes us into a future factory where a handful of human survivors cower under the machines' sufferance.

"Outside" is a closer-to-ordinary problem story about some very strange people in a very strange house without an outside. "Psycholps" brings us a telepath, communicating across the span of Space with his unborn son. Finally, and I think my favorite, we have the ethereally mocking "Our Kind of Knowledge," a little like

Arthur Clarke in his most poetic vein, a little like Bradbury's "Ylla" in mood, with a wholly delightful group of beings, happy in the wonder and beauty of their quiet world, coping simply and handily with military brutality.

This is beginning Aldiss: look to the future for something memorable

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TOMORROW TIMES SEVEN, by Frederik Pohl. Ballantine Books, N. Y. No. 325K. 1959. 160 pp. 35¢

The most promising story in this collection is the most disappointing. "The Day of the Boomer Dukes" gives us the fascinating situation of a dilettante time traveler, well equipped with weapons of the far future, who falls into the hands of a juvenile gang in New York of today. Foraminifera 9, superior, amused, slipping in and out of the jargon of his own time, is well built up as a person —but we promptly leave him, and flit from viewpoint to viewpoint, staying with nobody long enough to make him or his contribution to the plot of much importance. Finally, a rabbit is snatched out of the hat to solve an insoluble crisis. Harlan Ellison should have written this story.

Best of the seven stories, if you have no deep-rooted blocks against sentimental themes, is "To See Another Mountain." It shows us a great mathematical scientist, propped up in his last years by an elaborately well-meaning deception intended to milk the last drops of genius out of his brain. Or you make like "The Gentle Venusian"—formerly "The Gentlest Unpeople," which I prefer—with its wonderful alien point of view on a thoroughly repulsive Earthling.

The rest are good, typical, middle-of-the-turnpike *Galaxy* stories. In "The Haunted Corpse" there are shenanigans over a machine to switch souls or personalities or what you will. "The Middle of Nowhere" shows us a well depicted Martian landscape, complete with hostile natives, whose gimmick is rather thin. "Survival Kit" is fun while it's rolling along, with the singlemindedness of its time-traveler and the open larceny of its "hero" at odds, but it builds up to another gimmick as obviously indicated as the last "Burma Shave" sign. I really enjoyed "The Knights of Arthur"—Arthur being a brain-in-the-box with a personality all his own, coping with a set of self-centered allies in a post-holocaust United States. But on most of these stories it is odd bits of window-dressing that stick with you, rather than the story as a whole. Let's face it: Kornbluth was a very essential element in "Space Merchants."

THE FALLING TORCH, by Algis Budrys. Pyramid Books, New York. No. G-416. 1959. 158 pp. 35¢.

This is a transplanted Resistance novel, with almost nothing but a few sketched-in spaceships and a league of distant planets to lift it off Earth. If it showed the heir of a Ukrainian

or other Middle-European government-in-exile going back to fight in a guerrilla action against Russia, with knowledge that the United States or NATO would provide backing at a crucial point, it might still be science fiction by the Heinlein criteria, but it would also be a rather touchy evaluation of this country's present motives. Chances are, nobody would publish it.

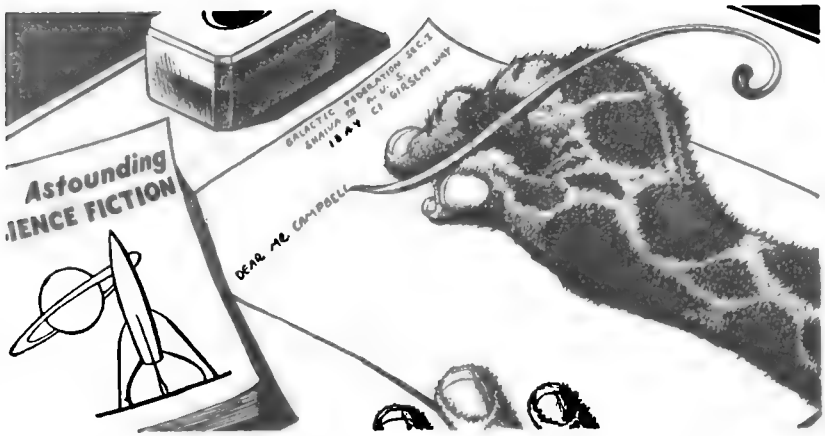
So the scene is moved to the Twenty-fifth Century. Earth has been invaded by a human race from somewhere else in the galaxy. The president of the all-Earth government, and part of his cabinet, have escaped to one of Earth's colonial planets, Cheiron, in the Centaurian System. Here, for twenty years, they have dickered, plotted and grown old. At last arms are to be supplied them on speculation, by a front for the Centaurians, if they will take them to Earth and raise an armed revolt against the Invaders. But they are too old, and some are too well adapted to new places in the Centaurian society. The dream of return has grown stale.

So Michael Wireman, son of the President-in-Exile, is trained to stand in for his father in the guerrilla organization. He goes to Earth with a few guns and promise of more . . . becomes bitterly disillusioned with the Dissident leader and his motives . . . surrenders to an Invader patrol, and is even more disillusioned about his chances of being accepted into the new Earth society . . . escapes and develops the strength to go back to the mountains of eastern Pennsylvania and lead a successful revolt. Choosing to slit away from his father's philosophy of leadership, the prelude to the story shows ironically how much he is drawn back to that lonely attitude.

I feel, as I did with Russell's "Wasp," that more of the attention that Heinlein gives to the meticulous construction of alien cultures would have helped "The Falling Torch" to be better science fiction. What it says is universal, but it might as well open in 2013 or 1973 as in 2513. There's not enough window-dressing, and certainly none of the crafty reconstruction that goes into a good museum habitat group.

THE END

BRASS TACKS



Dear Editor:

I thought you might be interested in hearing about a seminar given by Professor Fred Hoyle at Caltech this week on the subject "Science Fiction as a Literary Form." His thesis was to list four things which may make up a novel: (1) the individual, his thoughts, emotions, and trivia of everyday living; (2) interrelation between small groups of people—two or more; (3) relationship of large groups of people—the social aspect; and (4) physical background. Most literary novels place major emphasis on the first two of these items, using the third and fourth only as they directly influence the lives of the main characters. Science Fiction, on the other hand, emphasizes the last two items, extrapolating one particular aspect of either and building the story plausibly around it.

He said there are several motives for writing a novel. One is merely to tell "a rattling good story." In the science ficition novel the motive is often to prove a social or perhaps even a moral point. This must be carefully concealed by the plot in order that readers will not think the author is "riding a hobby-horse." Dr. Hoyle said he was acutely conscious of the need for this sugar-coating while writing his second novel. "Ossian's Ride." The point he was trying to make was the appalling lack of enthusiasm of the public toward the gaining of scientific knowledge for the sake of knowledge alone, regardless of its practical application. He said that apparently he erred in

the opposite direction, for upon reading the English critics he found he had concealed this underlying thought so well that they did not catch it at all.

When writing "The Black Cloud" he had no such clear-cut motive. He had read many stories about "intelligent lizards, intelligent trees, and so forth" and felt it would be interesting to write about a huge intelligent entity existing out in space.

Dr. Hoyle has a very dry humor. It seems almost as though he is testing the attentiveness of his audience with samples of this wit, by keeping his face perfectly expressionless and continuing his monologue without a break.— Ruth A Stratton, 4362 Hornbrook Avenue, Baldwin Park, California.

There is a fifth type: The interaction of the group-force on a resistant individual!

Dear Editor:

Our client, Nissen Trampoline Company, of Cedar Rapids, Iowa, is the owner, by assignment, of trademark Registration No. 402,868 covering the trademark "Trampoline," as applied to rebound tumbling equipment.

In some recent publications, the trademark "Trampoline" has been used improperly either as a generic term in articles or in connection with the advertising of rebound tumbling equipment of other manufacturers.

To avoid similar improper uses in the future, we are writing this letter to advise you of the trademark and to request that, if you use the mark, you identify it as the registered trademark of the Nissen Trampoline Company.

Further, the mark should not be used in connection with the advertising of rebound tumbling equipment manufactured by anyone other than the Nissen Trampoline Company.

If you have any further questions, please feel free to call on us at any time.—Ooms, Welsh and Bradway, 1 North La Salle Street, Chicago 2, Illinois.

That's one I didn't know was a proprietary term!

Dear Mr. Campbell:

Your November editorial said that we are losing to the Soviets a political and economic war in which the issues at stake are the influence that either Communism or the Western-American-Democracy system will in future wield over those parts of the world usually called "underdeveloped." We're getting licked all right, but not for the reasons you suggest. My basic gripe is your seeming acceptance of the idea that Communism, and by implication *only* Communism, can prove its abilty to achieve an industrial society "within a single lifetime." This view is demonstrably false, no matter how sincerely Ivan, your hypothetical Communist culture-salesman, may

believe in his witch-doctor's prescription.

Plenty of other "underdeveloped" cultures have managed to industrialize rapidly by means totally unrelated to Communist dogma. Japan, in a period of time commensurate with that taken by the more recent Soviet development, became a top-notch industrial and military power *without giving up its essentially feudal social structure*. No revolt of the masses, no dictatorship of the proletariat. Just the same old ruling oligarchy working with and through the traditional institutional framework. Yet Japan's transformation, economically, was as complete as Russia's. Consider the rise of Germany to European dominance—economic as well as political—between the Franco-Prussian War and World War I. Or its repetition of that feat in the two decades separating World Wars I and II.

If these countries had anything in common with the Soviet Union, it was certainly not Communism. I feel that there *is* a common factor, however, which I'll call a "Central Control Mechanism" (CCM for short), defined as "a political device for promoting maximum exploitation of a people's human and natural resources along the lines desired by that people's rulers." By rulers I mean the "power elite" that exists in any society. There is nothing mysterious about a CCM. Its principles are the same as those used to run armies, corporations and government bureaucracies. All soldiers, executives and bureaucrats like myself are fully familiar with them, though they may not be consciously aware of the fact!

It has been known at least since the time of King Cheops the Pyramid Builder that large masses of human being can be mobilized for the attainment of planned objectives. The results, like the Pyramids, are frequently impressive. What the Communists really offer other nations, though their propaganda pretends otherwise, is *not* a blueprint for economic and social advancement as such. It is a blueprint for a Central Control Mechanism, the latest in a long line and probably the most complete and all-pervasive ever invented. All Communist parties are so organized as to permit their immediate conversion into a CCM when, as and if the opportunity arises. The Communist Parties of the Soviet Union, China and the "satellite" countries are fully operative CCMs.

We can offer nothing comparable, not because we don't know how to build a CCM but simply because, rightly or wrongly, we dislike such devices and have avoided developing one ourselves. A democracy has no single ruling group or elite sufficiently powerful to impose its total will on society as a whole. Our elites are checked and balanced against one another and usually work at cross-purposes a good part of the time, which may be the underlying reason for the relative slowness of our 150-year development. We build up huge industrial, governmental and

military pyramids of power, but carefully prevent any one of them from achieving complete control of its field of activity. This is, or was, for the purpose of protecting individual liberties. It can, I think, be demonstrated historically that societies run by CCM methods demand from their individual members a higher level of effort than people will maintain for long without some form of coercion in addition to the incentives any society offers. As Stalin put it, "who works not, eats not." Such societies are also very intolerant of dissent in any form; the coercion is collective, society-wide, rather than individual.

Some of the features of a CCM-type culture are increasingly apparent in our own, now that our culture has grown complex and our "wide open spaces" are full of people. We must conform, fit smoothly into our roles; otherwise we risk jail or the insane asylum. Though we have no society-wide CCM, each of our power-pyramids runs a "little CCM" of its own. An Army officer, corporation executive or government employee cannot publicly criticize his superiors or refuse to obey their orders without grave risk to his career. Loss of one's job and pension plan are serious enough to instill a degree of caution, even without the prospect of being shot or shipped off to Siberia as can happen to those who "rock the boat" in Communist countries. Note that the principle behind the punishment is the same at General Motors and in the Soviet Union: severance of the relationship binding the individual to the collectivity represented in the one case by the corporation and in the other by the State. The latter's reaction tends to be more drastic, since the offender is deemed to have sinned against society as a whole rather than against a mere employer, and "severance of the relationship" can only be effected through the equivalent of a long prison term or the electric chair. Compare our own penalties for murder, high treason, and desertion in the face of the enemy. Communist countries have their own internal rivalries, bureaucracies, and conflicts of interest. But the CCM exerts ultimate control over all except, perhaps, the very highest echelon of the elite. Democracies have been able to achieve comparable totalization of effort only in wartime, when patriotic slogans stir people to new heights of effort and emergency powers are granted to governments so that all resources may be channeled into the overriding need for winning the fight. The present war, pitched on a different level, has so far produced no such reaction because of its very nature. Most people are not even certain there *is* a war; they are busy enjoying the installment plan and the tailfins on their cars!

Lest we should think that Communism must inevitably win, however, the mere existence of a CCM within a culture is no guarantee that the culture will be progressive. The Communists may not be fools, but they are as subject to human error as the rest of us and constantly run

the risk of being trapped by their own dogmatic views. In the Soviet Union and probably in China, the Communist CCM now appears to be oriented in the right direction for rapid technolgical development. But many a CCM in the past has been used solely to maintain a status quo, to enable an elite to siphon off for its own exclusive benefit such riches as even the most backward of countries somehow manages to accumulate. King Cheops' Pyramid is an example, and the phenomenon is historically far commoner than its opposite as exemplified by Japan, Germany, and more recently Russia and China. A Communist-model CCM is just as subject to perversion as any other. See "The New Class," by Milovan Djilas. Developments in China, though startling, very definitely are *not* following the Soviet blueprint. The "satellite" countries are not doing nearly as well as one might expect for nations well into the second decade of the forty years that will supposedly suffice for their economic transformation through Communism. Some of these countries are worse off than before, indicating that the product Ivan is trying to sell may be less useful than he would have the world believe. What's sauce for the goose may give the gander peritonitis. The Communist blueprint, you said, does not "require" killing off the native population of a country. Perhaps not. Russia was not totally depopulated during the course of its recent development. But millions of dead Great Russians, Ukranians, Kazakhs, Hungarians, Tibetans and other "natives" bear witness that Communist omelets are largely composed of broken eggs, whatever other ingredients they may contain. The human cost of any CCM so far invented is high; that of the Communist model is astronomical. Other countries know this full well. Except for Czechoslovakia, which underwent a Communist *coup d'etat* while surrounded by the Red Army, no country has ever adopted Communism of its own free will. Direct military intervention by the Soviet Union or by China was necessary in every other case.

A CCM of some sort *may* be necessary if a culture is to achieve a very high rate of economic growth, but a *Communist* CCM very clearly is *not!* If we cannot compete without a CCM for the Western-American-Democratic system, and I have a feeling that we can't, then we'd better develop one quick. NATO and the Marshall Plan — and other similar programs—are mere halfway measures, stopgaps whose effect has been generally good but not good enough to keep Communism in Russia where it developed naturally and probably belongs until the Russians outgrow it. I would hope that our CCM will be less costly and more effective than Communism, but to make it so will require that eternal vigilance well known to be the price of liberty. We may indeed have to give up even more of our liberty than has already been gradually eroded by the needs of our modern society, and do it con-

sciously (and therefore painfully). I have a thought or two more on the subject but would like to see some kind of public discussion. Any ideas, anybody? Professional social scientists, who are students rather than men of action, need not apply unless they're willing to crawl out of their ruts. How about a practicing politician or two?—John Chertok, Washington, D. C.

We are in essential agreement. I did not state that Communism was the only way to achieve industrialization rapidly, but that only Communists offer a specific, defined program for doing so. It's NOT the only, nor the best and quickest way. But it is the only defined technique currently offered for sale!

My whole point was that better and faster techniques surely exist —and if we don't want to lose this war by default, we MUST FIND AND DEFINE THEM.

Dear Editor:

There must be a dearth of real science fiction stories, since you were forced to foist a thinly-disguised piece of pro-slavery propaganda on your readers.

I like to get my science fiction in science-fiction magazines; I like to get my history in historical reviews; but I dislike being brainwashed by either type of publication.—Peter Zuckerman, 1736 South Sepulveda Boulevard, Los Angeles 25, California.

Is it brainwashing to present an alternative viewpoint? I always understood that the essence of brainwashing was to force the victim to have one, and only one viewpoint, denying him all other possible viewpoints.

History shows as a positive fact that, time and again, slaves—whatever you yourself may think they should have felt—did in fact like slavery. "The Destroyers" sought to present a possible explanation of why rational human beings could like slavery. It does provide a cradle-to-grave security, at the price of conformity—and this is a price many modern Americans now clearly feel is worth paying.

Try considering it not pro-slavery propaganda—but antisecurity propaganda!

December 1, 1959
Boston, Massachusetts

The Interplanetary Exploration Society, Boston Chapter, a group interested in more scientific information for the general public, will hold its fourth open meeting in the Adams Room at the Hotel Touraine, Boston, on Saturday, December 6, 7 to 11 p.m. The chairman is Thomas T. Hill, industrial chemist, 37 Oxford Street, Winchester.

Guest speaker will be Andrew Young, graduate student and instruc-

tor in astronomy at Harvard University, who will add comments to the Bell Science Series film on that subject. Other members and expected guests include Dr. Asimov, biochemist and world famous author of novels and textbooks; Dr. Batteau, physicist and mathematician; Dr. Krabek, bacteriologist, and John W. Campbell, Jr., editor of Astounding Science Fiction magazine.

Anyone interested in or around the Boston area? Boston has an active, going IES chapter; you can contact Tom Hill for further data.

Dear Mr. Campbell:

Regarding your proposed change from ASTOUNDING to ANALOG: WHOA! I read ASF—and I've been doing so for the past twenty-three years—because it is science-fiction. When I want science fact I read the journals or books which contain the information in which I am interested.

I'm sure that most of your readers prefer the make up of the magazine the way it is now. I know I do. We read the magazine for amusement and relaxation. At least I do. The one article you carry each month is usually off trail enough to be an added item of enjoyment.

My vote is to keep the magazine the way it is. The serials, of course, are the high points and I look forward to them. Would also like to see the writers come out with more "series" novelettes.—Roy Tackett, 415 Elderberry Drive, Laurel Bay, South Carolina.

There is no intent to change the content; we're changing from an inappropriate, to an appropriate title. Not changing the content.

Dear Mr. Campbell:

With reference to "How to Write Science Fiction," December, 1959:

Granted that "F" may mean *degrees* Fahrenheit to the technical writer, and to the *technical reader*, it still is true that the common, ordinary, everyday standards, such as dictionaries, say that F stands for Fahrenheit, C for centigrade (lower case, please), et cetera, no degrees mentioned. Hence, to the ordinary person the degree sign is still necessary. If I see "450 C" I read it as "four hundred fifty centigrade," with a vague feeling of something having been left out—which is the fact.

It is true that I have been away from college physics and chemistry courses for twenty years, but I *do* know what degrees Réaumur are, while I never heard of degrees Rankine.—Philip N. Bridges 5100 Randolph Road, Rockville, Maryland.

When writing a technical manual for technicians, technical terminology without addenda is appropriate. In ASF here, we do not need to explain such terms as "reaction motor" or "air regenerator" any more.

THE END

(*Continued from page 5*)

Heavy industry has always developed where three things were available; cheap raw materials, easy access to markets, and cheap energy supplies. In pre-industrial times, that cheap energy supply naturally meant cheap fuel for muscles, whether animal or human. Somewhat later, it meant water-power, and now it means fuels.

The current direction of research efforts is to achieve a controlled hydrogen fusion reaction, so that the energy needs of growing industry can be met.

In space, that problem is already solved. The Sun's been doing it for billions of years—and the only reason we can't use it here on Earth is that the cost of the structure needed to concentrate sunlight is too great.

So let's set up Asteroid Steel Company's No. 7 plant. It's in orbit around the Sun about one hundred million miles outside of Mars' orbit. Conveniently close—within one hundred or two hundred miles—are floating in the same orbit a dozen energy collectors. They don't last long—a few months or so—but they're cheap and easy to make. A few hundred pounds of synthetics are mixed, and while they're copolymerizing, the sticky mass is inflated with a few gallons of water vapor. In an hour, the process is complete, and a horny-looking film of plastic has been formed into a bubble half a mile in diameter. A man goes in through the bubble wall after it's set, places a thermite bomb in the middle, and retires. A few seconds later, the bubble has been converted to a spherical mirror. A little more manipulation, and at a cost of perhaps one thousand dollars total, two half-mile diameter mirrors have been constructed, located, and faced toward the Sun. A little equipment has to be laced onto them to keep them from being blown out into outer space by the pressure of the solar rays they're reflecting, and to keep them pointed most advantageously.

The beam—poorly focused though it is—of one of these solar mirrors can slice up an asteroid in one pass. Shove the asteroid in toward the beam, stand back, and catch it on the other side. So it's half a mile thick, itself? So what? A few passes, and the nickle-steel directly under that mirror-beam boils off into space. Power's cheap; we've got a no-cost hydrogen-fusion reactor giving all the energy we can possibly use—and collectors that cost almost nothing.

The steel—it's high-grade nickle-steel; other metals available by simply distilling in vacuum, of course!—once cut to manageable sizes can be rolled, forged, formed, et cetera, in the heavy machinery of Plant No. 7. The plant was, of course, constructed of the cheap local metal; only a nucleus of precision machine tools had to be hauled up from Earth. And those are long since worn out and discarded from Plant No. 1.

The plant itself has a few power mirrors to provide the electrical energy needed. After all, with the free fusion-reactor hanging right out there,

nobody's going to go to the trouble and risk of installing a nuclear power plant.

Plants for food, of course, need light—and they'll get just exactly as much as they can best use. So the direct light's a little weak out there? Aluminized plastic film costs almost nothing per square yard.

And the third factor for heavy industrial development is, of course, easy access to market? How easy can it get! It's a downhill pull all the way to *any* place on Earth! Whatever the system of space-drive developed, it's almost certain to allow some form of "dynamic braking"—and it's usually easier to get rid of energy than to get it. From the asteroids to the surface of the Earth you're going down hill all the way—first down the slope of the solar gravitational field, then down Earth's.

Spot delivery of steel by the megaton, anywhere whatever on Earth's surface, at exactly the same low cost follows. There's easy access to *all* markets from space!

Meanwhile Solar Chemicals Corporation will have their plants scattered somewhat differently. Landing on Jupiter is, of course, impossible for human beings—but it's fairly easy to fall into an eccentric orbit that grazes the outer atmosphere of the planet. That wouldn't cost anything in the way of power. Depending on the type of space-drive—antigravity or some form of bootstraps lifter—ships would take different approaches to the problem.

The problem, of course, is that Jupiter's atmosphere is one stupendous mass of organic chemicals raw materials—methane, ammonia, and hydrogen. And, probably, more water in the form of dust in that air, than we now realize.

In any case, if Jupiter doesn't supply oxygen from water, the stony asteroids do—as silicates. And Saturn's rings, it's been suggested, are largely ice particles.

The solar mirrors are less efficient at Jupiter's distance, of course—but Solar Chemicals doesn't need to melt down planetoids. Their power demands are more modest.

With Jupiter's atmosphere to draw on, it seems unlikely that Man will run short of hydrocarbon supplies in the next few megayears. And there's always Saturn, Uranus and Neptune in reserve . . .

We're only beginning to understand the potentialities of plasmas and plasmoids—of magnetohydrodynamics and what can be done with exceedingly hot gases in magnetic fields under near-vacuum conditions. Space is the place to learn something about those things—and one of the things we've already learned from our rocket probes is that the immediate vicinity of magnetized planets is exceedingly dangerous.

Open space might prove to be somewhat healthier than we now realize. And if there are some difficulties—generating our own, homegrown magnetic fields isn't an impossibly difficult matter. Particularly when we've got nickle-steel by the

megaton to work with! And it is not, remember, necessary to build our space plants—it might prove wiser to carve them, instead.

The meteorites that reach Earth are, of course, almost entirely composed of common silicates and nickle-iron. However, the Earth is also, to the best of current belief, composed almost entirely of those materials. Nevertheless there's quite a tonnage of copper, silver, lead, tantalum, titanium, tungsten, molybdenum and other metals around here. And, presumably, in the asteroids.

Silicate meteors being common, we can expect effectively unlimited quantities of raw material for glassy materials in space. On Earth, vacuum distillation is scarcely a practicable method of separating the components of a rocky ore; in space, however, vacuum distillation is far more economical than processing in various water solutions. On Earth, high-energy processes are expensive; solution processes relatively cheap. In space, with the energy of a star to play with, solution processes will be used rarely —and whole new concepts of high-energy-level chemistry will be invented. Jupiter's atmosphere will supply plenty of low-cost carbon for constructing graphite processing equipment.

We can, effectively, make our own solar flares—our own sunspot vortices—by injecting gas into the focused beam of a half-mile mirror, traveling not across, but *along* the beam. The light-pressure effects, alone, should yield a jet of gas at high velocity equivalent to several tens of thousands of degrees.

There's every inducement for heavy-industry development in space.

And against that—what have the planets to offer?

Earth, of course, is a unique situation; we evolved to fit this environment. The planets do have open skies, instead of walls, and natural gravity, rather than a constant whirling. They are, and Earth in particular will remain, where men want to live.

Sure . . . and men today want to live on a country estate, with acres of rolling hills and running streams and forest land, with horses and dogs around.

That urge is so strong that, at least around the New York Metropolitan area, anywhere within seventy-five miles of the city, they can sell a structure that an Iowa farmer would consider a pretty cramped hencoop for forty-five hundred dollars, as a "summer home." All it needs is a pond renamed Lake Gitchiegoomie within a mile or so.

Man, you ought to see the beautiful, uncluttered landscapes in Western Ireland! Lakes that *aren't* ponds, and not even one house on them. They don't have to have water-police to handle the traffic jam of boats on a one by three mile "lake" there.

Only . . . who can afford commuting from New York to Ireland?

Well, there's one sure thing about the space-cities. They won't have the smog problem.

THE EDITOR.

THREE PROPHETIC NOVELS BY H. G. WELLS

edited by E. F. Bleiler $1.45

The term "future history" is now a commonplace in s-f, but it is not generally known that (like so much else) it all began with H. G. Wells. Around the turn of the century Wells started to organize his thoughts upon man's future, and set them down in three thrilling novels in one time chain. The result was **The Time Machine, When the Sleeper Wakes,** and **A Story of the Days to Come.**

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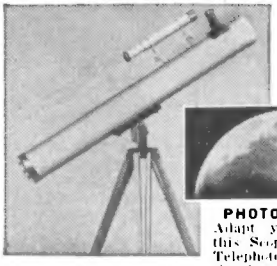

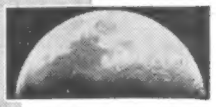

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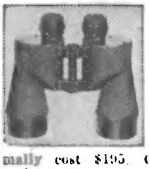

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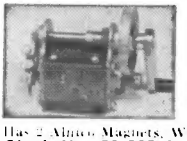

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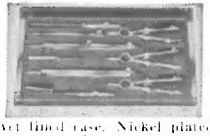

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